

Fig. 1.

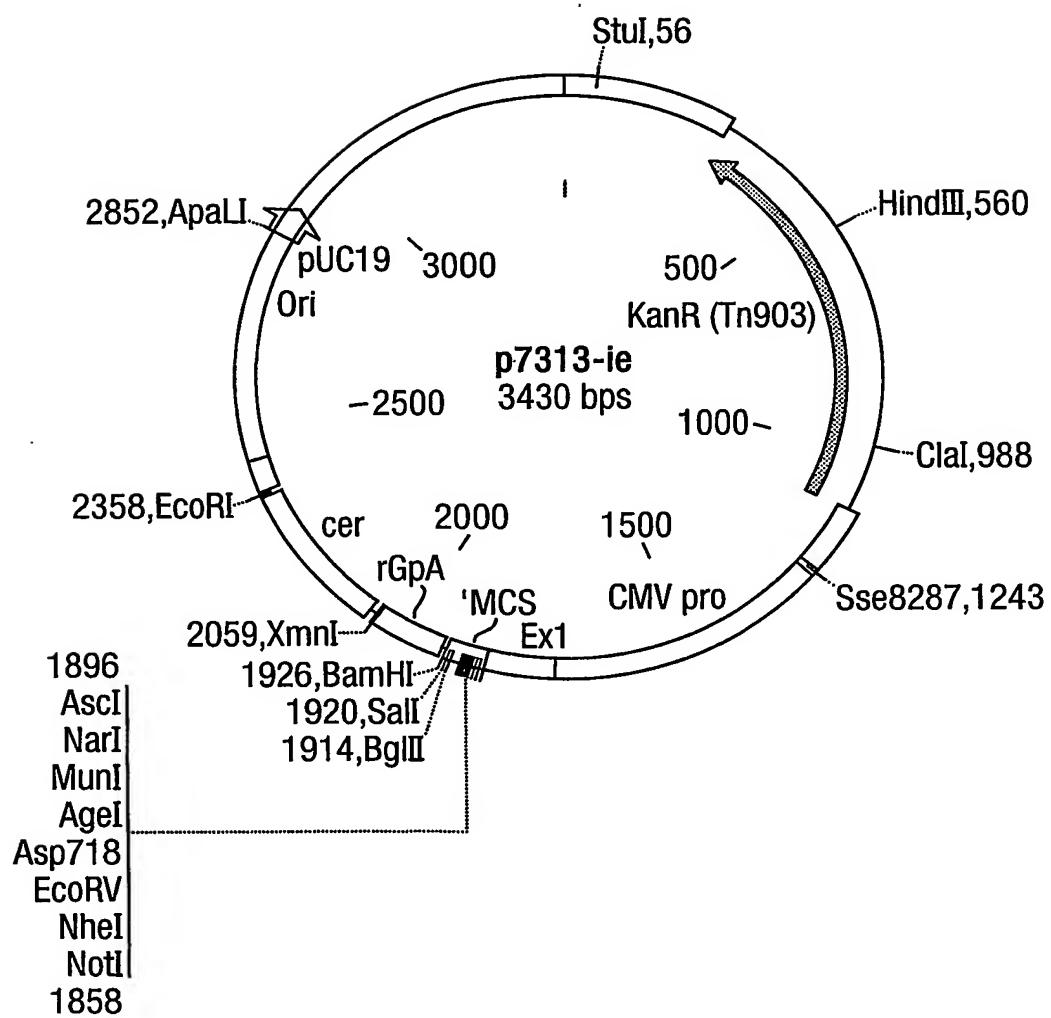
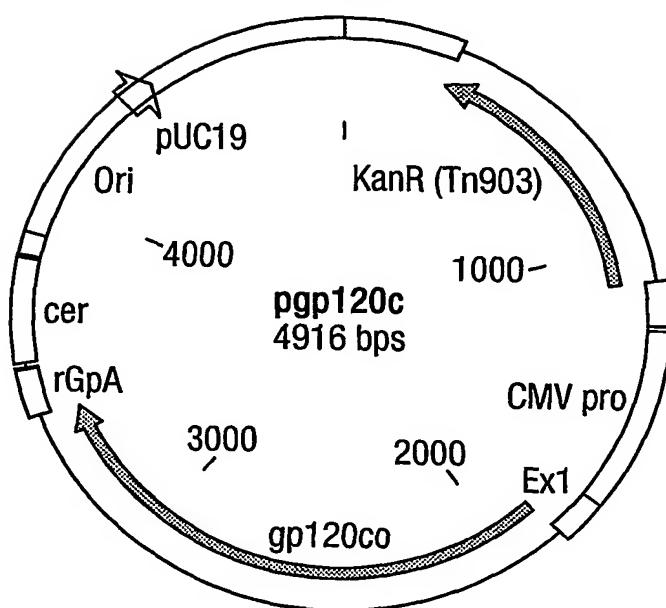


Fig.2.

Map of ppg 120c:



The amino acid sequence of the W61D gp120 is below. The signal sequence is underlined and bold, up to the predicted cleavage site between amino acids 29 and 30. This is the sequence removed in dsgp120 (pRix12 etc).

**MKVKE TRKNYQHLWRWGTMLLGMLMICSAAEQLWVTVYYGVPVWKEATTLCASDAKAYDTEVHNWATH**  
 ACVPTDPNPQEVVVLGNVTEYFNMWKNNMDQMHEDIISLWDQSLKPCVKLTPLCVTLDCDDVNTTNSTTT  
 SNGWTGEIRKGEIKNCSFNITTSIRDKVQKEYALFYNLDVVPIDDDNATTKNKTRNFRЛИCNSSVMTQA  
 CPKVSFEPIPIHYCAPAGFAILKCNKTFDGKGLCTNVSTVQCTHGI RPV VSTQLLLNGSLAEEEVVIRSD  
 NFMDNTKTIIIVQLNESVAINCTRPNNNTRKGHIIGPGRAYAARKIIGDIRQAHCNLSRAQWNNTLKQIVI  
 KLREHFGNKTIFNQSSGGDPEI VRHSFNCGGEFFYCDTQLFNSTWNGTEGNNTEGNSTIILPCRIKQII  
 NMWQEVGKAMYAPPIGGQIRCSSNITGLLTRDGGTEGNTENETEIFRPGGGDMRDNRSELYKYKVVKV  
 EPLGVAPTRAKRRVVQR [SEQ ID NO: 49]

The codon optimised DNA sequence for the W61D gp120 gene is:

ATGAAGGTCAAGGAGACCAGAAAGAACTACCAGCATCTGTGGCGCTGGGGCACCATGCTCTGGGAATGCT  
 GATGATCTGCTCCGCCCGAGCAGCTGTGGGTCAACCGTCTACTACGGCGTGCCTGTGGAAAGGAGGCCA  
 CGACCACCCCTTTCTGGCGAGCGACGCCAAGGCCTACGACACGGAAGTGCATAACGTGTGGCGACGCAT  
 GCTTGCCTGCCTACGGACCCCAACCCCCAGGGAGGTGGTGCTGGAAACGTGACCGAGTACTCAACATGTG  
 GAAGAATAACATGGTGGATCAGATGCACGAGGACATCATCTCTGTGGGACCAGTCCCTGAAGCCCTGCG  
 TGAAGCTGACGCCCTCTCTGGTGACACTGGACTGTGACGACGTCAACACCAACAGCACTACCACCACC  
 AGCAACGGCTGGACCAGGAGAGATCGGAAGGGCGAGATCAAGAACTGCTCCTCAATATCACGACCTCGAT  
 CAGAGACAAGGTGCAGAAGGAATACGGCGTGTCTTATAATCTCGATGTGGTCCCCATCGACGACGACAATG  
 CCACCAAGAACAGACGACGCGTAATTTCAGACTCATTCACTGCAACAGCAGCGTCATGACGCAGGCC  
 TGCCCCAAGGTGTCTCGAACCAATCCCGATCCATTACTGTGCCCCCTGCCGGATCGCGATCCTCAAGTG  
 TAACAACAAGACCTTCGACGGGAAGGGCCTGTGCACCAACGTCAGCACGGTGCAGTGACCCATGGCATCC

## Fig.2 (Cont).

GCCCGTCGTGAGCACCCAGCTGCTGAACGGGTCCCTGGCTGAGGAGGAGGTGGTATCCGGTCGGAC  
 AACTTCATGGACAACACCAAGACAATCATCGTCCAGCTGAACGAGTCGTGGCATTAACTGTACCCGGCC  
 TAACAACAACACCGTAAGGGCATCCACATCGGGCTGGACGGGCCTCTATGCCGCCGCAAGATCATCG  
 GCGACATCCGGCAGGCCATTGCAACCTCTCCCGGCCAGTGAATAACACCCGAAGCAGATCGTGATC  
 AAGCTGAGAGAGCAGTTGGAAACAAGACCATCAAGTTCAATCAGAGTTCTGGCGGAGACCCGAGATCGT  
 GCGGCACTCCTCACTGCAGGGCGAGTTCTACTGCATACGACACAGCTCTCAACTCCACCTGGA  
 ACGGCACCGAGGGCAACAACACAGAGGGAAACTCCACTATCACCCCTCCGTGCCGATCAAGCAGATCATC  
 AACATGTGGCAGGGAGGTGGAAAGGCCATGTATGCCCTCCATCGGGGCCAGATCCGCTGCTCCTCAA  
 CATCACCGGCCCTGCTGCTCACCAAGAGACGGGGCACCGAGGGCAACGGCACGGAGAACGAGACGGAGATCT  
 TCAGGGCCGGCGCGACATGAGGGATAACTGGCGAGCGAGCTGTACAAGTACAAGGTGGTGAAGGTG  
 GAGCCGCTCGCGTGGCCCCACCCGGCCAAGGCCGCGTGCAGAGATGA [SEQ ID NO: 50]

## Fig.3.

Map of pRiT15244:

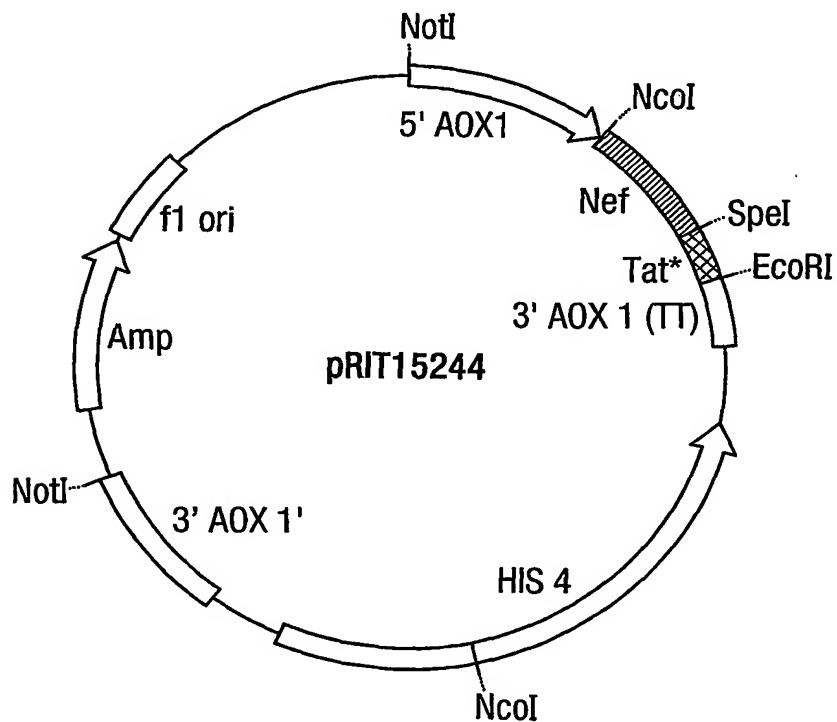
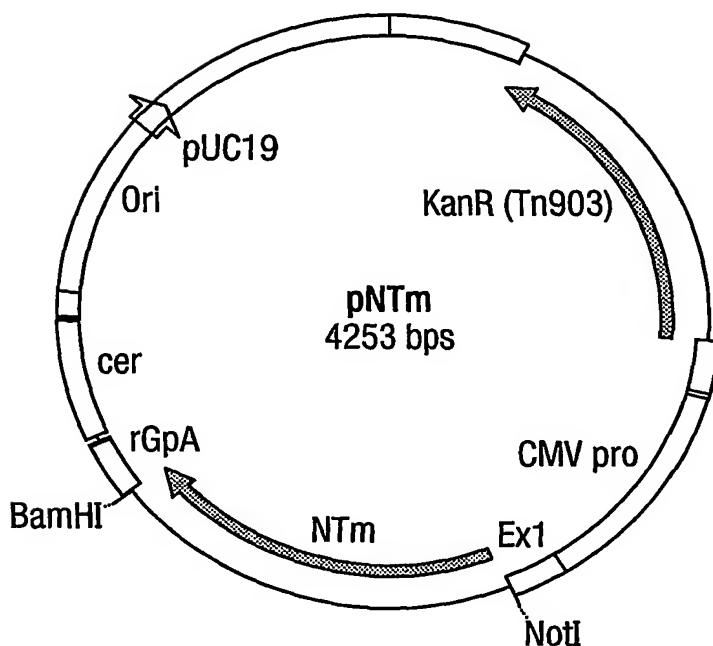


Fig.4.

Plasmid pNTm:



Sequence of insert:

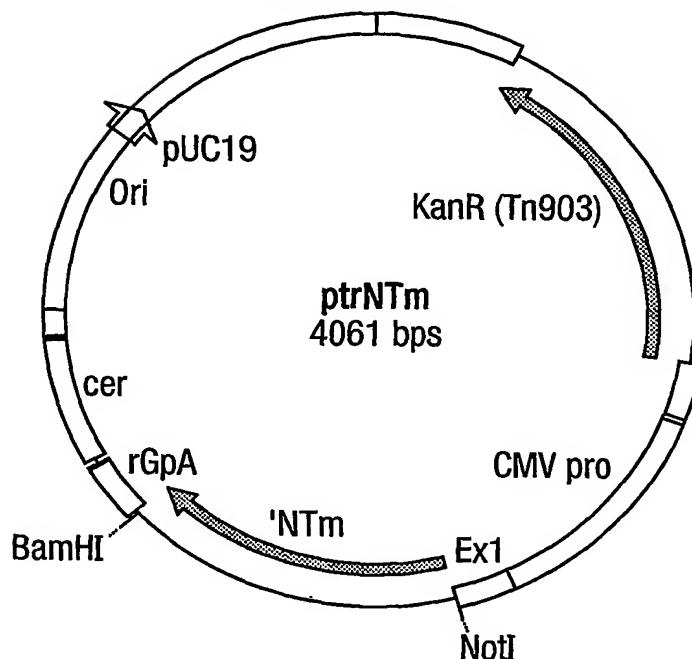
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CAGCAGCTACCAATGCTGCTTGTGCTGGCTAGAACGACAAGAGGAGGGAGGTGGGTTTTCAGTCACA  
CCTCAGGTACCTTAAGACCAATGACTTACAAGGAGCTGTAGATCTTAGCCACTTTTAAAGAAAAGGG  
GGGACTGGAAGGGCTAATTCACTCCCAACGAAGACAAGATATCCTTGATCTGTGGATCTACCACACACAAG  
GCTACTTCCCTGATTGGCAGAACTACACACCAGGGCCAGGGGTAGATATCCACTGACCTTGGATGGTGC  
TACAAGCTAGTACCAAGTGAGCCAGATAAGGTAGAACAGAGGCCAATAAGGAGAGAACACCAAGCTTGTAC  
CCCTGTGAGCCTGCATGGAATGGATGACCCCTGAGAGAGAAGTGTAGAGTGGAGGTTGACAGCCGCCTAG  
CATTTCATCACGTGGCCCGAGAGCTGCATCCGGAGTACTTCAAGAACTGCACTAGTGAGCCAGTAGATCCT  
AGACTAGAGCCCTGGAAGCATCCAGGAAGTCAGCCTAAACTGCTTGATACCAATTGCTATTGTAAGGTG  
TTGCTTCATTGCCAAGTTGTTCTACAGCTGCCTAGGCATCTCTATGGCAGGAAGAAGCGGAGAC  
AGGCACGAAGACCTCCTCAAGGCAGTCAGACTCATCAAGTTCTATCAAAGCAACCCACCTCCAAATCC  
AAAGGGAGCCGACAGGCCGAAGGAATAA [SEQ ID NO: 51]

Amino acid sequence of antigen:

MGGKWSKSSVVGWPTVRERMRRADGVAASRDLEKHGAITSSNTAATNAACAWLEAQEE  
 EEVGFPVTPQVPLRPMTYKAADVLSHFLKEKGGLEGLIHSQRQRDILDLWIYHTQGYFPDWQNYT  
 PGPGVRYPLTFGWCYKLVPVEPDVKVEEANKGENTSLLHPVSLHGMDDPEREVLEWRFDSRLAFH  
 HVARELHPEYFKNCTSEPVDPRLPWKHPGSQPKTACTNCYCKKCCFHQCQVCFITAALGISYGRK  
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Fig.5.

Plasmid ptrNTm:



Sequence of insert:

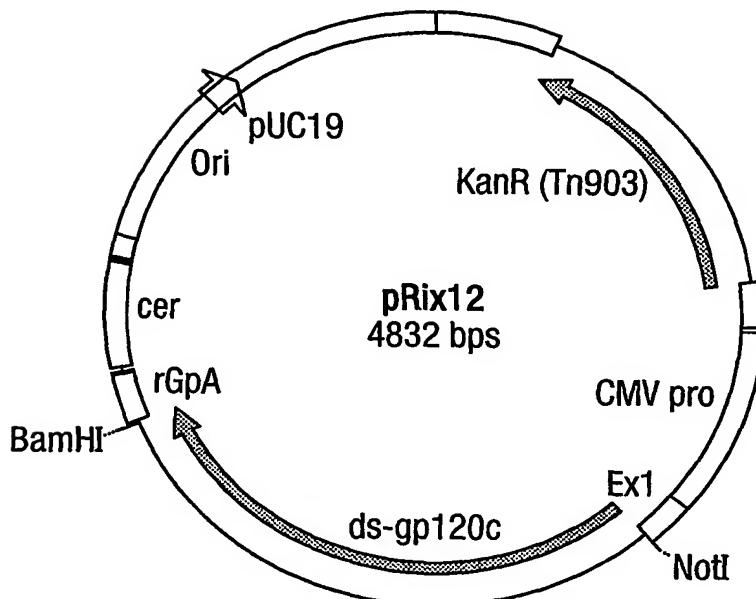
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 TGTGGATCTACCACACACAAGGCTACTTCCCTGATTGGCAGAACTACACACCAGGGCCAGGGTCAGATAT  
 CCACTGACCTTGGATGGTGTACAAGCTAGTACCAAGTGTGAGCCAGATAAGGTAGAAGAGGCCAATAAAGG  
 AGAGAACACCAAGCTTGTACACCCCTGTGAGCCTGCATGGAATGGATGACCCCTGAGAGAGAAGTGTAGAGT  
 GGAGGTTTGACAGCCGCTAGCATTCATCACGTGGCCCGAGAGCTGCATCCGGAGTACTTCAGAAACTGCG  
 ACTAGTGAGCCAGTAGATCCTAGACTAGAGCCCTGGAAGCATCCAGGAAGTCAGCCTAAAAGTGTGCTTGAC  
 CAATTGCTATTGTAAGTGTGCTTCATTGCCAAGTTGTTCTAAACAGCTGCCTTAGGCATCTCCT  
 ATGGCAGGAAGAAGCGGAGACAGCGACGAAGACCTCCTCAAGGCAGTCAGACTCATCAAGTTCTCTATCA  
AAGCAACCCACCTCCAAAGGGGAGCCGACAGGCCGAAGGAATAA [SEQ ID NO: 53]

Amino acid sequence of antigen:

MVGFPVTPQVPLRPMTYKAADVLSHFLKEKGGLIHSQRQDILDLWIYHTQGYFPDWQNYTPGPGVRY  
 PLTFGWCYKLPVVEPDKEEANKGENTSLHPVSLHGMDDPEREVLWRFDSRLAFHVARELHPEYFKNC  
 TSEPVDPRLPFWKPGSQPKTACTNCYCKCCFHQCQVCFITAALGISYGRKKRQRRPPQGSQTHQVSL  
 KQPTSQSKGEPTGPKE [SEQ ID NO: 54]

Fig.6.

Plasmid pRix12:



Sequence of insert:

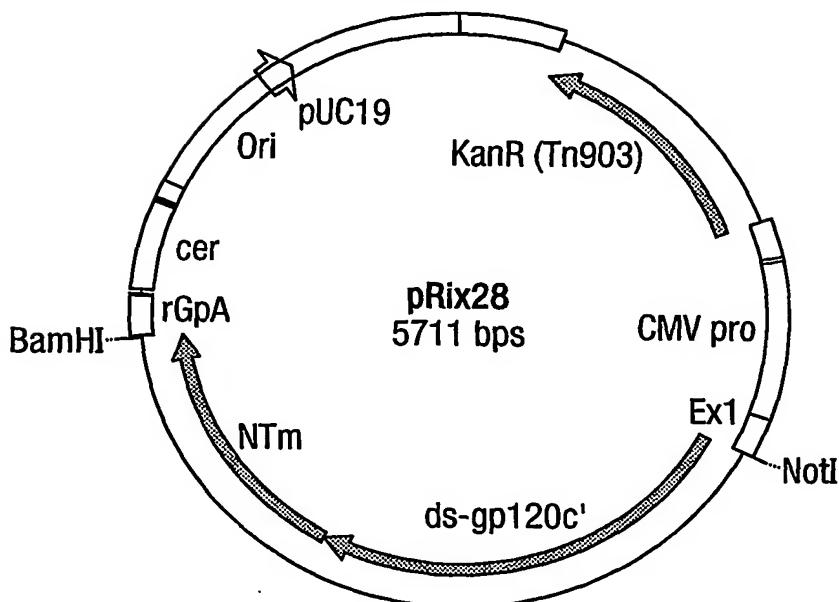
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 CGGACCCCAACCCCCAGGAGGTGGCTGGAAACGTGACCGAGTACTCAACATGTGGAAGAATAACATG  
 GTGGATCAGATGCACGAGGACATCATCTCTGTGGGACCAAGTCCCTGAAGGCCCTGCGTGAAGCTGACGCC  
 TCTCTGCGTGACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCCACCAAGCAACGGCTGGA  
 CCGGAGAGATTGGAAGGGCGAGATCAAGAACTGCTCCTTCAATATCACGACCTCGATCAGAGACAAGGTG  
 CAGAAGGAATACGCGCTGTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATGCCACCAAGAA  
 CAAGACGACGGTAATTCAAGACTCATCACTGCAACAGCAGCGTATGACGCAGGCCCTGCCCAAGGTGT  
 CCTTCGAACCAATCCCATCCATTACTGTGCCCCCTGCCGATTGCGATCCTCAAGTGTAAACAACAAGACC  
 TTCGACGGGAAGGGCTGTGCACCAACGTCAGCACGGTCCAGTGCACCCATGGCATCCGCCCCGTCGTGAG  
 CACCCAGCTGCTGCTGAACGGTCCCTGGCTGAGGAGGAGGTGGTGTCCGGTCCGACAACATTGACACA  
 ACACCAAGACAATCATCGTCCAGCTGAACGAGTCTGTGGCGATTAACGTACCCGCCAACAAACAACACC  
 CGTAAGGGCATCCACATCGGGCCTGGACGGGCTTCTATGCCGCCGAAAGATCATGGCGACATCCGGCA  
 GGCCCATTGCAACCTCTCCCGCCAGTGGAAATAACACCCCTGAAGCAGATCGTGTCAAGCTGAGAGAGC  
 ACTTTGGAAACAAAGACATCAAGTTCAATCAGAGTCTGGGGAGACCCGAGATCGTGGGCACTCTTC  
 AACTGCGGGGGCGAGTCTTCTACTGCGATACGACACAGCTCTCAACTCCACCTGGAACGGCACCGAGGG  
 CAACAACACAGAGGGAAACTCCACTATCACCCCTCCCTGCCGATCAAGCAGATCATCAACATGTGGCAGG  
 AGGTGGAAAGGCCATGTATGCCCTCCATCGGGGGCAGATCGCTGCTCTCCAACATCACCGCCCTG  
 CTGCTCACCAAGAGACGGGGCACCGAGGGCAACGGCACGGAGAACGAGACGGAGATCTCAGGCCGG  
 CGGGGACATGAGGGATAACTGGGGAGCGAGCTGTACAAGTACAAGGTGGTGAAGGTGGAGCCGCTGGCG  
 TGGCCCCACCCGGGCCAAGGCCGCGTGTGAGAGATGA [SEQ ID NO: 55]

Amino acid sequence of antigen:

MAEQLWVTVYYGVPVWKEATTLFCASDAKAYDTEVHNWATHACVPTDPNPQEVLGNVTEYFNMWKNNM  
 VDQMHEIDIISLWDQSLKPCVKLTPLCVTLDCDDVNTTNSTTTSGWTGEIRKGEIKNCSFNITTSIRDKV  
 QKEYALFYNLDVVPIDDDNATTKNKTRNFRLIHCNSSVMTQACPKVSFEPPIHYCAPAGFAILKCNNKT  
 FDGKGLCTNVSTVQCTH GIRPVVSTQLLLNGSLAEEEVIRSDNFMDNTKTIIQLNESVAINC TRPNNT  
 RKGIHIGPGRAYAARKIIGDIRQAHCNLSRAQWNNTLKQIVIKLREHFGNKTIFKNQSSGGDPEIVRHSF  
 NCGGEFFYCDTTQLFNSTWNGTEGNNTEGNSTITLPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNITGL  
 LLTRDGGTEGNGTENETEIRPGGGDMRDNRSELKYKVVKVEPLGVAPTRAKRRVVQR [SEQ ID  
 NO: 56]

Fig.7.

Plasmid pRix28:



Sequence of insert:

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 CTGCGCGAGCGACGCCAACGGCTACGACACCGAAGTGCATAACGTGTGGCGACGCATGCTGCGTGCTA  
 CGGACCCCAACCCCCAGGGAGGTGGCTGGAAACGTGACCGAGTACTCAACATGTGGAAGAATAACATG  
 GTGGATCAGATGCACGAGGACATCATCTCTGTGGGACCAGTCCCTGAAGGCCCTGCGTGAAGCTGACGCC  
 TCTCTGCGTGACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCAACACCAGCAACGGCTGGA  
 CGGAGAGAGATTCGGAAGGGCGAGATCAAGAACTGCTCCTCAATATCACGACCTCGATCAGAGACAAGGTG  
 CAGAAGGAATACCGCCTGTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATGCCACCAAGAA  
 CAAGACGACCGTAATTTCAGACTCATTCACTGCAACAGCAGCGTATGACGCAAGGCTGCCCAAGGTGT  
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 ACACCAAGACAATCATCGTCCAGCTGAACGAGTCTGTGGGATTAACTGTACCCGGCTAACAAACAACACC  
 CGTAAGGGCATCCACATCGGGCTGGACGGGCTTCTATGCCGCCGCAAGATCATGGCGACATCCGGCA  
 GGCCCATTGCAACCTCTCCGGCCCAAGTGGATAAACACCCCTGAAGCAGATCGTATCAAGCTGAGAGAGC  
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 AACTGCGGGGGCGAGTTCTCTACTGCGATACGACACAGCTCTCAACTCCACCTGGAACGGCACCGAGGG  
 CAACAACACAGAGGGAAACTCCACTATCACCCCTCCCTGCCGATCAAGCAGATCATCAACATGTGGCAGG  
 AGGTGGAAAGGCCATGTATGCCCTCCCATCGGGGCCAGATCCGCTGCTCTCCAACATCACCGGCTG  
 CTGCTCACCAAGAGACGGGGCACCAGGGCAACGGCACGGAGAACGAGACGGAGATCTCAGGGCCGGCG  
 CGGGCACATGAGGGATAACTGGGGAGCGACCTGTACAAGTACAAGGTGGTGAAGGTGGAGCCGCTGGCG  
 TGGCCCCACCGGGCCAAGCGCCGCGTGTGCAAGAGAATGGGTGGCAAGTGGTAAAAAGTAGTGTGGTT  
 GGATGGCCTACTGTAAGGAAAGAATGAGACGAGCTGAGCCAGCAGCAGATGGGTGGAGCAGCATCTCG  
 AGACCTGGAAAAACATGGAGCAATCACAAGTAGCAATACAGCAGCTACCAATGCTGCTTGTGCTGGTAG  
 AAGCACAAGAGGAGGAGGAGGTGGTTTCCAGTCACACCTCAGGTACCTTAAGACCAATGACTTACAAG  
 GCAGCTGTAGATCTTAGCCACTTTAAAAGAAAAGGGGGACTGGAAAGGGCTAAATTCACTCCCAACGAAG  
 ACAAGATATCCTGATCTGTGGATCTACCAACACACAAGGCTACTTCCCTGATTGGCAGAACTACACACCAG  
 GGCCAGGGTCAGATATCCACTGACCTTGGATGGTGTACAAGCTAGTACCAAGCTGAGCCAGATAAGGTA  
 GAAGAGGCCAATAAAGGAGAGAACACCAGTTGTTACACCCTGTGAGCTGCATGGAATGGATGACCGTGA  
 GAGAGAAGTGTAGAGTGGAGGTTTGACAGCCGCTAGCATTGACACGTTGAGCTGAGCCAGTGCATCCGG  
 AGTACTTCAAGAACTGCACTAGTGAGCCAGTAGACTAGAGCCCTGGAAAGCATCCAGGAAGTCAG

## Fig.7 (Cont.).

CCTAAACTGCTTGTACCAATTGCTATTGCTAAAAGTGTGCTTCATTGCCAAGTTGTTCATAAACAGC  
TGCCTTAGGCATCTCCATGGCAGGAAGAAGCGGAGACAGCGACGAAGACCTCCTCAAGGCAGTCAGACTC  
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[SEQ ID NO: 57]

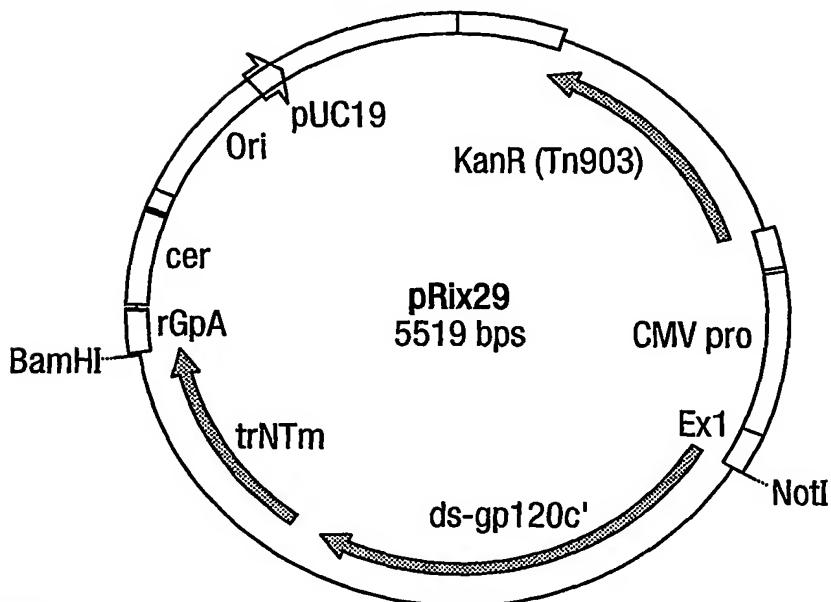
Amino acid sequence of antigen:

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QKEYALFYNLDVVPIDDDNATTKNTTRNFRLIHCNSSVMTQACPKVSFEPIPIHYCAPAGFAILKCNNKT  
FDGKGLCTNVSTVQCTH GIRPVVSTQLLNGLAEEEVVIRSDNFMDNTKTIIIVQLNESVAINCTRPNNT  
RKGIHIGPGRAYAARKIIGDIRQAHCNLSRAQWNNTLQIVIKLREHFGNKTIFNQSSGGDPEIVRHSF  
NCGGEFFYCDTTQLFNSTWNGTEGNNT EGNSTITLPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNITGL  
LLTRDGGTEGNGTENETEI FRPGGGDMRDNRSELYKYKVVKVEPLGVAPTRAKRRVQRMGGKWSKSSVV  
GWPTVRERMRAEPAADGVGAASRDLEKHGAITSSNTAATNAACAWLEAQEEEVGFPTPQVPLRPMTYK  
AAVDLSHFLKEKGGLERGLIHSQRQDILDLWIYHTQGYFPDWQNYTPPGGVRYPLTFGWCYKLVPVEPDKV  
EEANKGENTSLLHPVSLHGMDDPEREVLEWRFDSDRLAFHHVARELHPEYFKNCTSEPVDPRLEPWKHPGSQ  
PKTACTNCYCKKCCFHQCQVCFITAALGISYGRKKRQRRPPQGSQTHQVSLSKQPTSQSKEPTGPKE

[SEQ ID NO: 58]

Fig. 8.

Plasmid pRix29:



Sequence of insert:

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 CGGACCCAAACCCCCAGGAGGTGGTGGCTGGAAACGTGACCGAGTACTCAACATGTGGAAGAATAACATG  
 GTGGATCAGATGCACGAGGACATCATCTCTGTGGGACCAAGTCCCTGAAGGCCCTGCGTGAAGCTGACGCC  
 TCTCTGCGTGAACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCAACCCAGCAACGGCTGGA  
 CCGGAGAGATTCGAAGGGCGAGATCAAGAACTGCTCCTCAATATCACGACCTCGATCAGAGACAAGGTG  
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 CAAGACGACCGTAATTTCAGACTCATTCACTGCAACAGCAGCGTATGACCGAGGCCCTGCCCAAGGTGT  
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 CACCCAGCTGCTGCTGAACGGGTCCCTGGCTGAGGAGGAGGTGGTATCCGGTGGACAACCTCATGGACA  
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 GGCCCATTGCAACCTCTCCCGGCCAGTGGAAATAACACCCCTGAAGCAGATCGTGTACAGCTGAGAGAGC  
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 TGGAAAGCATCCAGGAAGTCAGCCTAAACAGCTGTGCTTAGGCATCTCTATGGCAGGAAGAAGGGAGAC  
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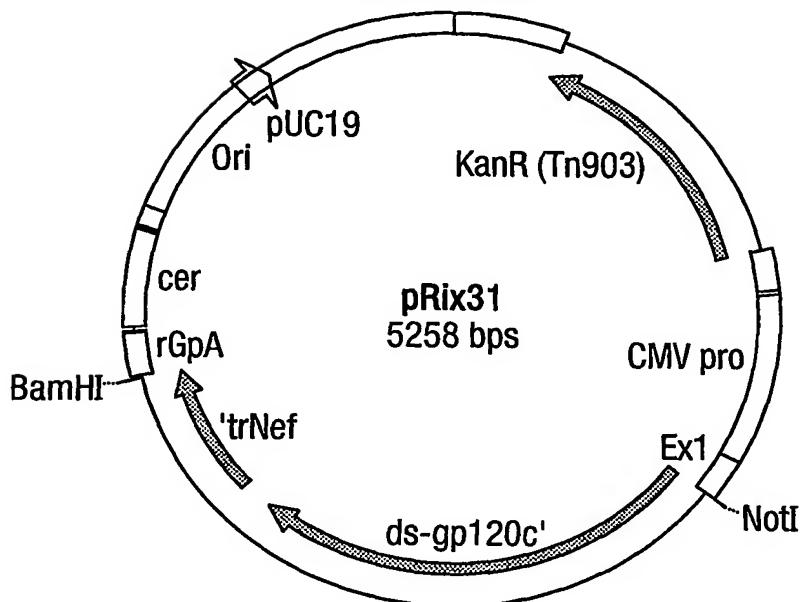
## Fig.8 (Cont).

### Amino acid sequence of antigen:

MAEQLWVTVYYGVPVWKEATTLFCASDAKAYDTEVHNWATHACVPTDPNPQEVLGNVTEYFNMWKNNM  
VDQMHEDIISLWDQSLKPCVKLTPLCVTLDCDDVNTNSTTSNGWTGEIRKGEIKNCSFNITTSIRDKV  
QKEYALFYNDVVPIDDDNATTKNKTTRNFRЛИHCNSSVMTQACPKVSFEPIPIHYCAPAGFAILKCNNKT  
FDGKGLCTNVSTVQCTHГIRPVSTQLLNGSLAEEEVIRSDNFMDNTKTIIVQLNESVAINCTRPNNT  
RKGИHIGPGRAYAARKIIGDIRQAHCNLSRAQWNNTLKQIVIKLREHFGNKTIFNQSSGGDPEIVRHSF  
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LLTRDGGTEGNGTENETEIFRPGGGDMRDNWRSELYKYKVVKVEPLGVAPTRAKRRVVQRMVGFVTPQVP  
LRPMTYKAADVDSLHFLIKEKGGLLEGLIHSQRRQDILDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLV  
PVEPDKVEEANKGENTSLLHPVSLHGMDDPEREVLEWRFDSSLAFHHVARELHPEYFKNCTSEPVDPRL  
WKHPGSQPKTACTNCYCKCCFHCQVCFTAALGISYGRKKRRQRRPPQGSQTHQVSLSKQOPTSQSKGE  
TGPKE [SEQ ID NO: 60]

Fig. 9.

Plasmid pRix31:



Sequence of insert:

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CGGACCCCAACCCCCAGGAGGTGGTGTGGAAACGTGACCGAGTACTCAACATGTGGAAGAATAACATG  
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TCTCTGCGTGAACACTGGACTGTGACGACGTCAACACCAACAGCACTACCACCAACAGCAACGGCTGGA  
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CAAGACGACCGCTAATTTCAGACTCATTCACTGCAACAGCAGCGTATGACGCAGGCTGCCCAAGGTGT  
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GCTAATTCACTCCAAACGAAGACAAGATACTCTGATCTGTGGATCTACCACACACAAGGCTACTCCCTG  
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Amino acid sequence of antigen:

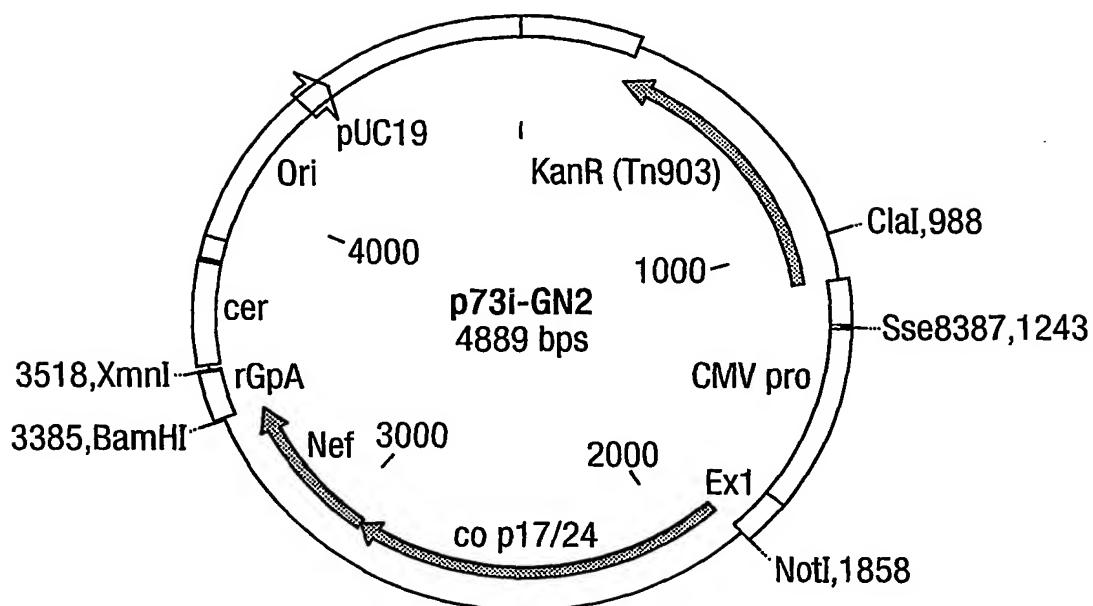
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## Fig.9 (Cont).

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[SEQ ID NO: 62]

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Fig.10.

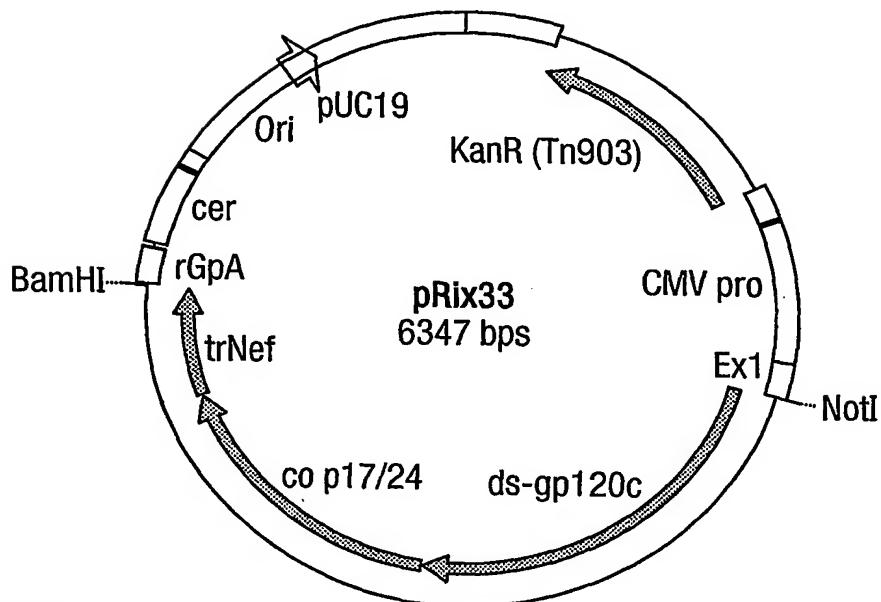


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 GGCACCCACCTCTACACTGCAAGAGCAAATCGGATGGATGACCAACAATCCTCCATCCAGTTGGAGAAAT  
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Fig.11.

Plasmid pRix33:



Sequence of insert:

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## Fig.11 (Cont.).

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[SEQ ID NO: 64]

Amino acid sequence of antigen:

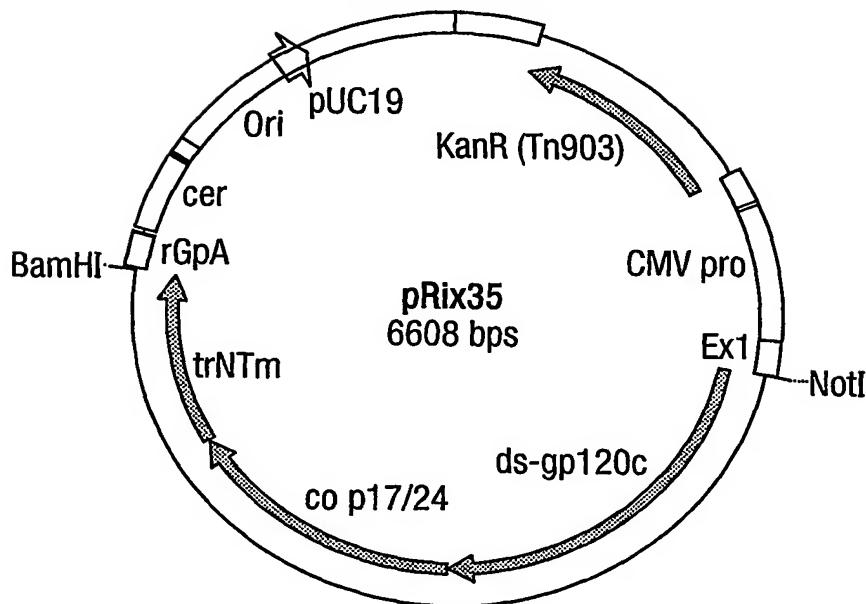
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[SEQ ID NO: 65]

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Fig.12.

Plasmid pRix35:



Sequence of insert

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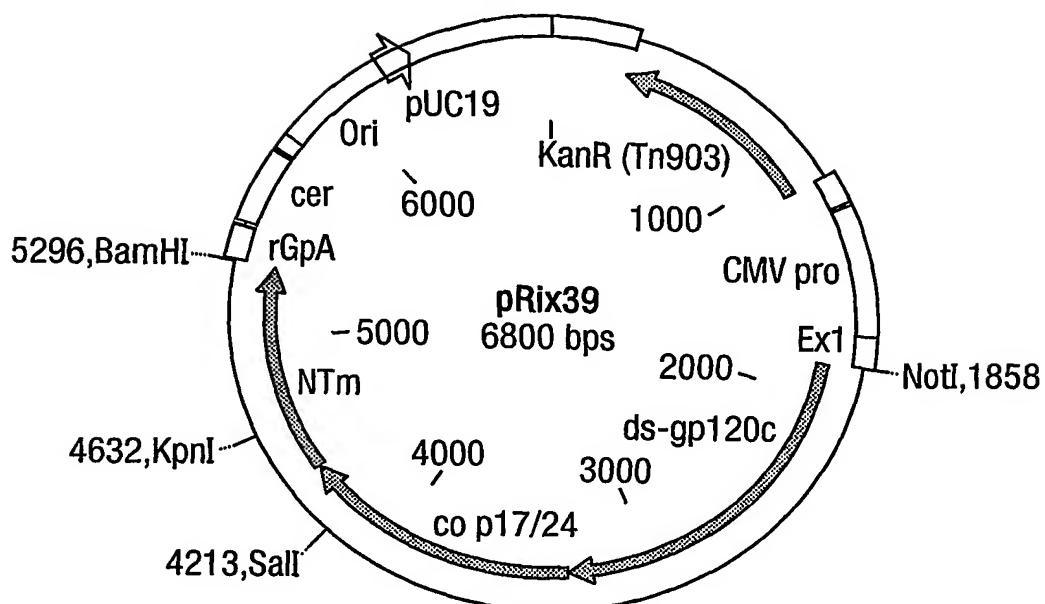
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## Amino acid sequence of antigen:

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Fig.13.



Sequence of insert:

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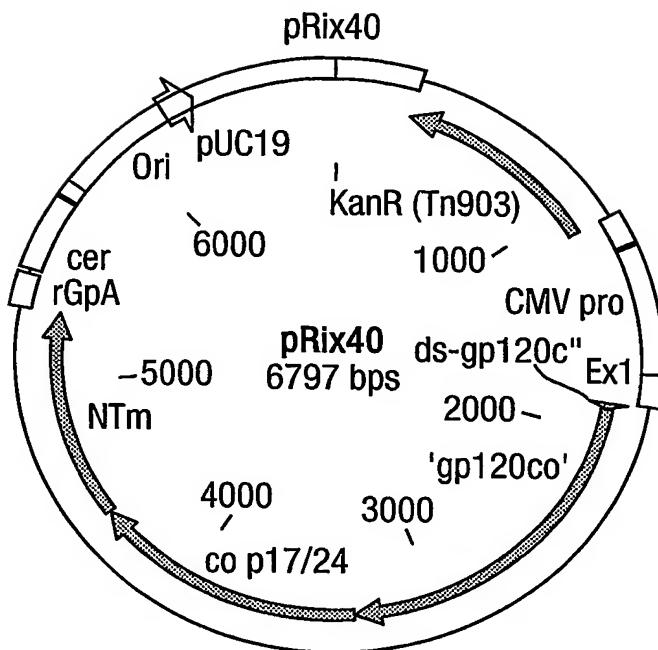
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PGQMREPRGSDIAGTTSTLQEIQIGWMTNNPPIPVGEIYKRWIILGLNKIVRMSPTSILD  
DIRQGPKEPFRD  
YVDRFYKTLRAEQASQEVKNWMETLLVQ NANPDCKTILKALGPAATLEEMMTACQGVGGPGHKARVLMGG  
KWSKSSVVGWPTVRERMRAEPAADGVGAASRDLEKHGAITSNTAATNAACAWLEAQEEE  
EVGFVTPQV  
PLRPMTYKAAVDSLHFLKEKGGLIHSQRRQDILD  
LWYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKL  
VPVEPDKVEEANKGENTSLLHPVSLHGMDDPEREVLEWRFD  
SRLAFHHVARELHPEYFKNTSEPVDP  
RLE  
PWKHPGSQPKTACTNCYCKCCFHCQVC  
FITAALG  
ISYGRKKRRQRRRPPQGSQTHQVSLSKOPTSQSKGE  
PTGPKE [SEQ ID NO: 69]

Fig. 14.



## DNA sequence of insert

ATGGCCGAGCAGCTGGGTACCGTCACTACGGCGTGCCTGTGGAAGGAGGCCACGACCACCCCTCT  
 CTGCGCGAGCGACGCCAAGGCCCTACGACACGGAAAGTGCATAACGTGTGGCGACGCATGCTTGCCTGCCTA  
 CGGACCCCCAACCCCCAGGAGGTGGCTGGAAACGTGACCGAGTACTTCAACATGTGGAAGAATAACATG  
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 TCTCTGCCTGACACTGGACTGTGACGACGTCAACACCAACAGCACTACCACCACCAGCAACGGCTGGA  
 CGGGAGAGATTCGGAAGGGCGAGATCAAGAACTGCTCCTTCAATATCACGACCTCGATCAGAGACAAGGTG  
 CAGAAGGAATACGCGCTGTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATGCCACCACCAAGAA  
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 CACCCAGCTGCTGTAACGGGCCCTGGCTGAGGAGGGAGGTGGTGAATCCGGTCGGACAACCTCATGGACA  
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 GGCCCATGCAACCTCTCCCGGCCAGTGGATAAACACCCCTGAAGCAGATCGTGAAGCTGAGAGAGC  
 ACTTTGGAAACAAGACCATCAAGTTCAATCAGAGTTCTGGCGAGACCCCGAGATCGTGGGGCACTCCTTC  
 AACTGCGGGGCGAGTTCTTCACTGCGATACGACACAGCTTCAACTCCACCTGGAACGGCACCGAGGG  
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 CGGCGACATGAGGGATAACTGGCGAGCGAGCTGTACAAGTACAAGTGGTGAAGGGAGGCCGCTCGCG  
 TGGCCCCCACCGGGCAAGCGCCGTCGTGCAGAGAATGGTGGCCAGCTCGGTACTGTCTGGTGA  
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 GCTACCCCTCACTGCGTACACCAAGAGGATCGAGATTAAGGATAACCAAGGAGGCCCTGGACAAAATTGAGGA  
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 AGAACTATCTATTGTCAAAACATTCAAGGGCCAGATGGTTCATCAGGCCATCAGCCCCGGACGCTCAAT  
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 GGGGCCACTCCTCAGGACCTAATACAATGCTTAATACCGTGGCGGCCATCAGGCCGACATGCAAATGT  
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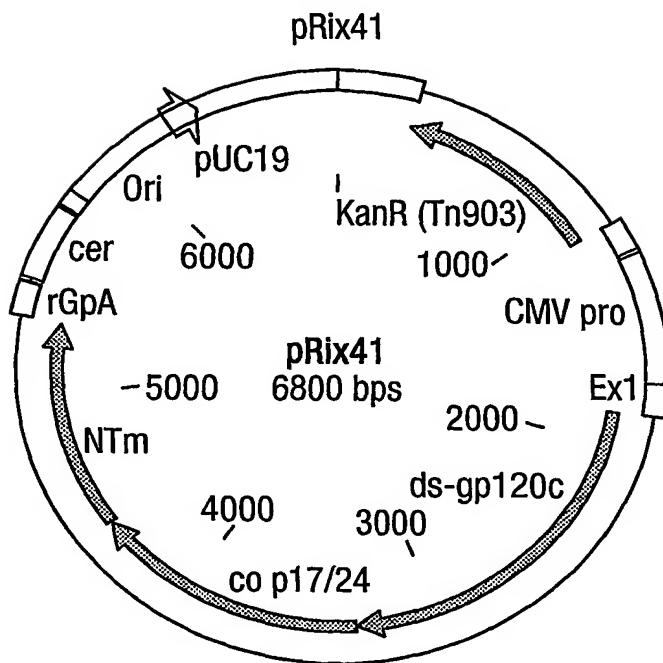
**Fig.14 (Cont).**

CCCGGACAGATGCGGGAGCCTCGCGCTCTGACATTGCCGGACCACCTTACACTGCAAGAGCAAATCGG  
 ATGGATGACCAACAATCCTCCCATCCCAGTTGGAGAAATCTATAAACGGTGGATCATTCTCGGTCTCAATA  
 AAATTGTTAGAAATGTAATCTCCGACATCCATCCTGACATTAGACAGGGACCCAAAGAGCCTTTAGGGAT  
 TACGTCGACCGGTTTATAAGACCCTGCGAGCAGAGCAGGCCCTCTCAGGAGGTCAAAAATGGATGACGGA  
 GACACTCCTGGTACAGAACGCTAACCCCGACTGCAAAACAATCTTGAAGGCAGTGGCCGGCTGCCACCC  
 TGGAAAGAGATGATGACCGCCTGTCAGGGAGTAGGCGGACACAAAGCCAGAGTGGTGTGGATGGCAAG  
 TGGTCAAAAAGTAGTGTGGTTGGATGGCCTACTGTAAGGGAAAGAATGAGACGAGCTGAGCAGCAGCAGA  
 TGGGGTGGGAGCAGCAGCATCTCGAGACCTGGAAAAACATGGAGCAATCACAAAGTAGCAATACAGCAGCTACCA  
 ATGCTGCTTGTGCCTGGCTAGAACAGCACAAAGAGGAGGGAGGGAGGGTTTCCAGTCACACCTCAGGTACCT  
 TTAAGACCAATGACTTACAAGGCAGCTGTAGATCTTAGCCACTTTTAAAGAAAAGGGGGACTGGAAGG  
 GCTAATTCACTCCAAACGAAGACAAGATATCCTGATCTGTGGATCTACCACACACAAGGCTACTTCCCTG  
 ATTGGCAGAACTACACACCAGGGCCAGGGTCAGATATCCACTGACCTTGGATGGTGTACAAGCTAGTA  
 CCAGTTGAGCCAGATAAGGTAGAACAGGGCCAATAAAGGAGAGAACACCAGCTTGTACACCTGTGAGCCT  
 GCATGGAATGGATGACCCCTGAGAGAGAACAGTGTAGATGGAGGTTGACAGCCGCTAGCATTTCATCACG  
 TGGCCCGAGAGCTGCATCCGGAGTACTTCAGAACACTGCACTAGTGAGCCAGTAGACCTAGACTAGAGCCC  
 TGGAAAGCATCCAGGAAGTCAGCCTAAACTGCTTGACCAATTGCTATTGTAAGGAGTGTGCTTTCATTG  
 CCAAGTTGTTCTATAACAGCTGCCTAGGCATCTCTATGGCAGGAAGAAGCGGAGACAGCGACGAAGAC  
 CTCCTCAAGGCAGTCAGACTCATCAAGTTCTCTATCAAAGCAACCCACCTCCAAAGGGAGCCG  
 ACAGGCCGAAGGAATAA [SEQ ID NO: 70]

**Aminoacid sequence of insert**

MAEQLWVTVYYGVPVWKEATTILFCASDAKAYDTEVHNWATHACVPTDPNPQEVLGNVTEYFNMWKNNM  
 VDQMHEIDIISLWDQSLKPCVKLTPLCVTLDCDDVNTNSTTTSNGWTGEIRKGEIKNCSFNITTSIRDKV  
 QKEYALFYNLDVVPIDDDNATTKNKTRNFRЛИHCNSSVMTQACPKVSEPIPIHYCAPAGFAILKCNNKT  
 FDGKGLCTNVSTVQCTH GIRPVVSTQLLLNGSLAEEEVIRSDNFMDNTKTIIVQLNESVAINCTRPNNT  
 RKGIHIGPGRAYAARKIIGDIRQAHCNLSRAQWNNTLKQIVIKLREHFGNKTIFNQSSGGDPEIVRHSF  
 NCGGEFFYCDTTQLFNSTWNGTEGNNTEGNSTITLPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNITGL  
 LLTRDGGTEGNGTENETEIFRPGGGDMRDNRSELYKYKVVKVEPLGVAPTRAKRRVQRMGARASVLSGG  
 ELDRWEKIRLRPGGKKYKLKHIVWASRELERFAVNPGLLETSEGCROILGQLOPSLQTGSEELRSLYNTV  
 ATLYCVHQRIEIKDTKEALDKIEEEQNKSKKAAQQAADTGHSHNQVSQNYPIVQNIQGQMVKQAI SPRLN  
 AWVKVVEEKAFSPEVIPMFSALSEGATPQDLNTMLNTVGGHQAAQMQLKETINEEAAEDRVHPVHAGPIA  
 PGQMREPRGSDIAGTTSTLQEIQIGWMTNNPPIPVGEIYKRWIILGLNKIVRMYSPTSILD  
 DIRQGPKEPFRD  
 YVDRFYKTLRAEQASQEVKNWMTETLLVQ NANPDCKTILKALGPAATLEEMMTACQGVGGPGH  
 KARVLMGK  
 WSKSSVVGWPTVRERMRAEPAADGVGAASRDLEKHGAI  
 TSSNTAATNAACAWLEAQEEE  
 EVGF  
 PVTPQVP  
 LRPMTYKAADVLSHFLKEKGGLEGLIHSQRRQDILD  
 LWIYHTQGYFPDWQNYTPGPGVRYPLTF  
 GWCYKL  
 PVEPDKVEEANKGENTSLLHPVSLHGMDDPERE  
 VLEWRFD  
 SRLAFHHVARELHPEYFKNCTSE  
 PVDPRLE  
 WKH  
 PGSQPKTACTNCYCKCCFHCQVCFITAALGI  
 SYGRKKRRQRRP  
 PQGSQTHQV  
 SLSKQPTS  
 QSKGE  
 P  
 TGPKE [SEQ ID NO: 71]

Fig.15.



## DNA sequence of insert

ATGGCCGAGCAGCTGTGGGTACCGTCTACTACGGCGTGCCTGTGTGGAAGGGGCCACGACCCACCTCTT  
 CTGCGCGAGCGACGCCAACGGCCTACGACACGGAAAGTCATAACGTGTGGCGACGCATGCTGCGTGCTA  
 CGGACCCCAACCCCCAGGAGGTGGTGGCTGGAAACGTGACCGAGTACTCAACATGTGGAAGAATAACATG  
 GTGGATCAGATGCACGAGGACATCATCTCTGTGGGACCAGTCCCTGAAGCCCTGCGTGAAGCTGACGCC  
 TCTCTGCGTACACTGGACTGTGACGACGTCAACACCAACAGCACTACCACCAACAGCAACGGCTGGA  
 CCGGAGAGATCGGAAGGGCGAGATCAAGAACTGCTCTTCAATATCACGACCTCGATCAGAGACAAGGTG  
 CAGAAGGAATACGCGTGTGTTATAATCTCGATGTGGTCCCCATCGACGACGACAATGCCACCAAGAA  
 CAAGACGACGCGTAATTCAGACTCATTCACTGCAACAGCAGCGTATGACGCAAGGCTGCCCAAGGTGT  
 CCTTCGAACCAATCCGATCCATTACTGTGCCCCCTGCCGGATTCGCGATCCTCAAGTGTAAACAACAAGACC  
 TTCGACGGGAAGGGCTGTGCACCAACGTCAGCACGGTGCAGTGCACCCATGGCATCCGCCCCGTGAG  
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 ACACCAAGACAATCATCGTCCAGCTGAACGGAGTCTGTGGCATTAACTGTACCCGGCTAACAAACAACACC  
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 GGCCCATTGCAACCTCTCCCGCGCCAGTGGAAATAACACCCCTGAAGCAGATCGTGTCAAGCTGAGAGAGC  
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 AACTGCGGGGGCGAGTTCTACTGCGATACGACACAGCTTCAACTCCACCTGGAACGGCACCGAGGG  
 CAACAACACAGAGGGAAACTCCACTATCACCCCTCCCTGCCCATCAAGCAGATCATCAACATGTGGCAGG  
 AGGTGGAAAGGCCATGTATGCCCTCCCTGCCAGATCCGCTGCTCTCCAACATCACCGGGCTG  
 CTGCTCACCAAGAGACGGGGCACCGAGGGCAACGGCACGGAGAACGAGACGGAGATCTCAGGGCCGG  
 CGGGCACATGAGGGATAACTGGCGAGCGAGCTGTACAAGTACAAGGTGGTGAAGGTGGAGGCCGCTGGCG  
 TGGCCCCCACCCTGGCCAAGGCCGCGTGTGCAGAGAAATGGGTGCCAGCTCGGTACTGTCTGGTGG  
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 GTGGGCTCGAGGGAGCTTGAACGGTTGCCGTGAACCCAGGGCTGTTGAAACATCTGAGGGATGTCGCC  
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 GCTACCCCTACTGCGTACACCAAGAGGATCGAGATTAAGGATACCAAGGAGGCCCTGGACAAAATTGAGGA  
 GGAGCAAAACAAGAGCAAGAAGAAGGCCAGCAGGCCAGCTGCTGACACTGGCATAGCAACCAGGTATCAC  
 AGAACTATCCTATTGTCCAAAACATTCAAGGCCAGATGGTTCATCAGGCCATCAGCCCCGGACGCTCAAT  
 GCCTGGGTGAAGGTTGTCGAAGAGAAGGCCCTTCTCCTGAGGTTATCCCCATGTTCTCCGCTTGAGTGA  
 GGGGCCACTCCTCAGGACCTCAATACAATGCTTAATACCGTGGCGGCCATCAGGCCGCAATGCAAATGT

## Fig.15 (Cont).

TGAAGGAGACTATCAACGAGGAGGCAGCCGAGTGGACAGAGTGCATCCCGTCCAGCTGGCCCAATCGCG  
 CCCGGACAGATGCAGGGAGCCTCGCGCTCTGACATTGCCGGCACCACCTCTACACTGCAAGAGCAAATCGG  
 ATGGATGACCAACAATCCTCCCATTCCAGTTGGAGAAATCTATAAACGGTGGATCATTCTCGGTCTCAATA  
 AAATTGTTAGAATGTACTCTCCGACATCCATCCTGACATTAGACAGGGACCCAAAGAGCCTTTAGGGAT  
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 AGATGGGGTGGGAGCAGCAGTCGAGACCTGGAAAAACATGGAGCAATCACAAGTAGCAATACAGCAGCTA  
 CCAATGCTGCTTGTGCGCTGGCTAGAACGACAAGAGGAGGAGGTGGGTTTCCAGTCACACCTCAGGTA  
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 GTACCAGTTGAGCCAGATAAGGTAGAAGAGGCCAATAAAGGAGAGAACACCAGCGCCTACACCTGTGAG  
 CCTGCATGGAATGGATGACCTGAGAGAGAAGTGTAGAGTGGAGGTTGACAGCCGCTAGCATTTCATC  
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 CCCTGGAAGCATCCAGGAAGTCAGCCTAAACTGCTTGTACCAATTGCTATTGTAAGGAGTGTGCTTTCA  
 TTGCCAAGTTGTTCATAACAGCTGCCTAGGCATCTCCTATGGCAGGAAGAAGCGGAGACAGCAGCAA  
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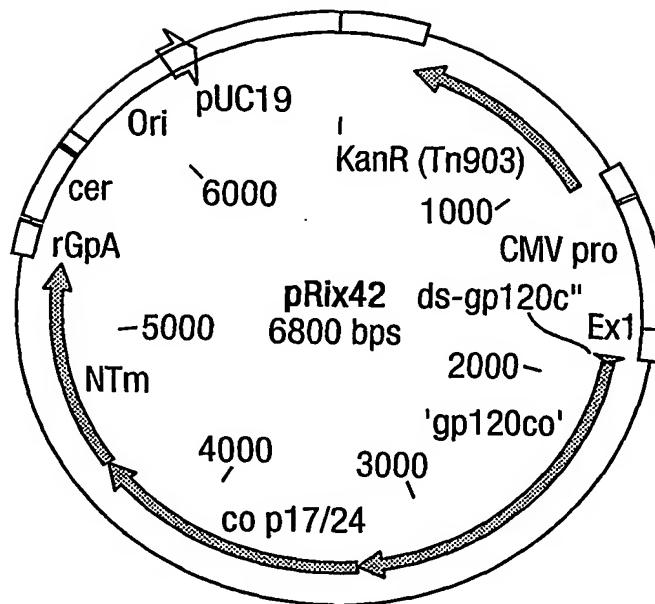
### Aminoacid sequence of insert

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 QKEYALFYNLDVVPIDDDNATTKNKTRNFRLIHNCSSVMTQACPKVSFEPPIHYCAPAGFAILKCNNKT  
 FDGKGLCTNVSTVQCTHIGIRPVVSTQLLINGSLAEEEVIRSDNFMDNTKTIIVQLNESVAINTRPNNNT  
 RKGHIIGPGRAYAARKIIGDIRQAHCNLSRAQWNNTLKQIVIKLREHFGNKTIFKNQSSGGDPEIVRHSE  
 NCGGEFFYCDTTLQFNSTWNGTEGNNTEGNSTITLPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNITGL  
 LLTRDGGTEGNGTENETIIFRPGGGDMRDNRSELKYKVVKVEPLGVAPTRAKRRVVQRMGARASVLSGG  
 ELDRWEKIRLRPGGKKYKLKHIVWASRELERFAVNPGLLETSEGCRQILQLQPSLQTGSEELRSLYNTV  
 ATLYCVHQRIEKDTKEALDKIEEEQNKSKKAAQQAADTGHNSNQVSQNYPIVQNIQGQMVHQAIISPTLN  
 AWVKVVEEKAFSPEVIPMFSALSEGATPQDLNTMLNTVGGHQAAMQMLKETINEEAAEDRVHPVHAGPIA  
 PGQMREPRGSIDIAGTTSTLQEIQIGWMTNNPPIPVGEIYKRWILGLNKIVRMSPTSILDIRQGPKEPFRD  
 YVDRFYKTLRAEQASQEVKNWMTETLLVQNANPDCKTILKALGPAATLEEMMTACQGVGGPGHKARVLMGG  
 KWSKSSVVGWPTVRERMRRAEPAADGVGAASRDLEKHGAITSNTAATNAACAWLEAQEEEVEGFPVTPQV  
 PLRPMTYKAAVDLSHFLKEKGGLIHSQRQDILDWLWYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKL  
 VPVEPDKVEEANKGENTSALHPVSLHGMDDPEREVLWRFDSRLAFHHVARELHPEYFKNCNSEPVDRLE  
 PWKHPGSQPKTACTNCYCKCCFHQCQCFITAALGISYGRKKRQRRPPQGSQTHQVSLSKQPTSQSKGE  
 PTGPKE [SEQ ID NO: 73]

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Fig. 16.

pRix42



## DNA sequence of insert

ATGGCCGAGCAGCTGGGTACCGTCTACTACGGCGTGCCTGTGGAAGGAGGCCACGACCACCTCTT  
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 CGGACCCCAACCCCCAGGAGGTGGTCTGGAAACGTCAGCTCAACATGTGGAAGAATAACATG  
 GTGGATCAGATGCACGAGGACATCATCTCTGTGGACCAGTCCCTGAAGCCCTGCGTGAAGCTGACGCC  
 TCTCTGCGTACACTGGACTGTGACGACGTCAACACCAACAGCACTACCAACACCAGCAACGGCTGGA  
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 GGCCCATGCAACCTCTCCGCCAGTGGAAATAACACCCCTGAAGCAGATCGTATCAAGCTGAGAGAGC  
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## Fig.16 (Cont).

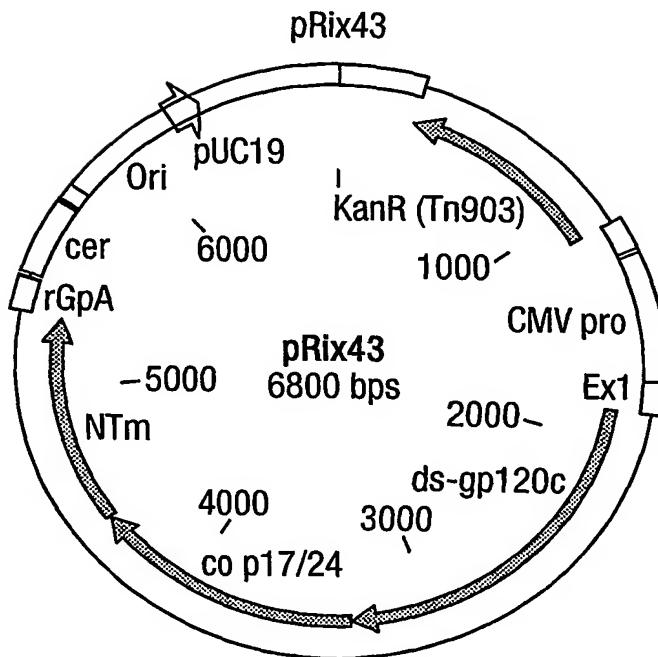
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 AAATTGTTAGAATGTACTCTCCGACATCCATCCTTGACATTAGACAGGGACCCAAAGAGCCTTTAGGGAT  
 TACGTCGACCGGTTTTATAAGACCCCTGCGAGCAGAGCAGGCCCTCAGGAGGTCAAAAACGGATGACGGA  
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 CCTGCATGGAATGGATGCCCTGAGAGAGAAGTGTAGAGTGGAGGTTGACAGCCGCTAGCATTTCATC  
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 TTGCCAAGTTGTTCTACACAGCTGCCTAGGCATCTCTATGGCAGGAAGAACGGAGACAGCGACGAA  
 GACCTCCTCAAGGCAGTCAGACTCATCAAGTTCTATCAAAGCAACCCACCTCCCAATCCAAAGGGGAG  
 CCGACAGGCCGAAGGAATAA [SEQ ID NO: 74]

### Aminoacid sequence of insert

MAEQLWVTVYYGVPVWKEATTLCASDAKAYDTEVHNWATHACVPTDPNPQEVLGNVTEYFNMWKNNM  
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 QKEYALFYNLDVVPIDDDNATTKNKTTRNFRЛИHCNSSVMTQACPKVSFЕPIPIHYCAPAGFAILKCNNKT  
 FDGKGLCTNVSTVQCTHGIRPVVSTQLLNGSLAEEEVIRSDNFMDNTKTIIVQLNESVAINTRPNNNT  
 RKGIHIGPGRAFYAARKIIGDIROQAHNLRAQWNNTLQKQIVIKLREHFGNKTIFNQSSGGDPEIVRHSF  
 NCGGEFFYCDTTQLFNSTWNGTEGNNTEGNSTITLPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNITGL  
 LLTRDGGTEGNGTENETEIFRPGGGDMRDNRSELYKYKVVKVEPLGVAPTRAKRVVQRMGARASVLSGG  
 ELDRWEKIRLRPGGKKYKLKHIVWASREILERFAVNPGLETSEGRQIQLQPLSLQTGSEELRSLYNTV  
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 VPVEPDKVEEANKGENTSLAHPVSLHGMDDPEREVLWRFDSRLAFHHVARELHPEYFKNCTSEPVDPRL  
 PWKHPGSQPKTACTNCYCKCCFHCQVCFITAALGI SYGRKKRRQRRPPQGSQTHQVSLSKQPTSQSKE  
 PTGPKE [SEQ ID NO: 75]

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Fig.17.



## DNA sequence of insert

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 TCTCTGCGTGACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCAACAGCAACGGCTGGA  
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 CAGAAGGAATACGCGCTGTTATAATCTCGATGTGGTCCCCATCGACGACGACAATGCCACCAAGAA  
 CAAGACGACCGTAATTTCAGACTCATTCACTGCAACAGCAGCGTCACTGACGACGGCTGCCCAAGGTGT  
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 TTCGACGGAAAGGGCTGTGCACCAACGTCAGCACGGTGCAGTGCACCCATGGCATCCGCCCGTGTGAG  
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 ACACCAAGACAATCATCGTCCAGCTGAACGAGTCTGTGGCGATTAACTGTACCCGGCTAACAAACAACACC  
 CGTAAGGGCATCCACATCGGGCTGGACGGGCTTCTATGCCGCCGCAAGATCATGGCGACATCCGGCA  
 GGCCCATTGCAACCTCTCCGCCAGTGGATAACACCCCTGAAGCAGATCGTGAAGCTGAGAGAGC  
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## Fig.17 (Cont).

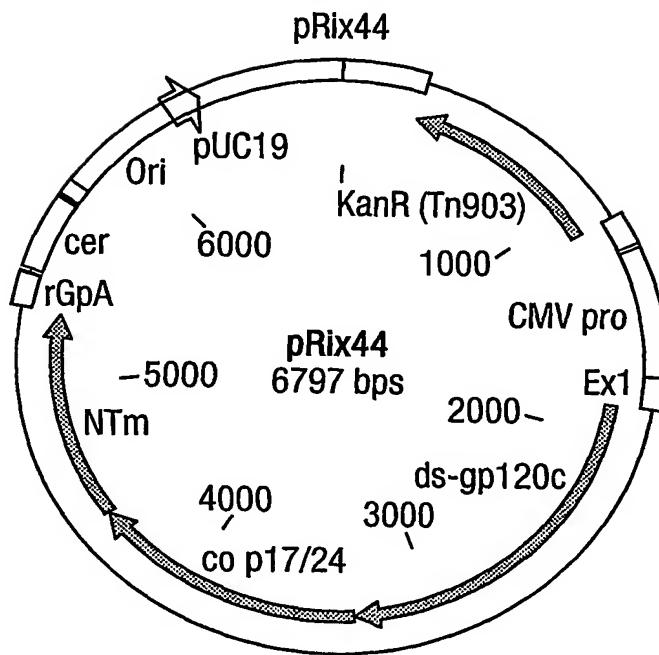
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 CCTGCATGGAATGGATGACCTGAGAGAGAACAGTGTAGATGGAGGTTGACAGCCGCTAGCATTTCATC  
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 CCCCTGGAAGCAGTCCAGGAAGTCAGCCTAAACTGCTTGTACCAATTGCTATTGTAAGGAGTGTGCTTTCA  
 TTGCCAAGTTGTTCATAACAGCTGCCTAGGCATCTCTATGGCAGGAAGAAGCGGAGACAGCGACGAA  
 GACCTCCTCAAGGCAGTCAGACTCATCAAGTTCTATCAAAGCAACCCACCTCCCAATCCAAAGGGGAG  
 CCGACAGGCCGAAGGAATAA [SEQ ID NO: 76]

### Aminoacid sequence of insert

MAEQLWVTVYYGVPWKEATTLFCASDAKAYDTEVHNWATHACVPTDPNPQEVLGNVTEYFNMWKNNM  
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 QKEYALFYNLDVVPIDDDNATTKNKTTTRNFRLIHCNSSVMTQACPKVSFEPPIPIHYCAPAGFAILKCNNKT  
 FDGKGLCTNVSTVQCTHGRPVVSTQLLLNGSLAEEEVIRSDNFMDNTKTIIVQLNESVAINCTRPNNT  
 RKGIHIGPGRAYAARKIIGDIRQAHCNLSRAQWNNTLKQIVIKLREHFGNKTIFKNQSSGGDPEIVRHSF  
 NCGGEFFYCDTTQLFNSTWNGTEGNNTEGNSTITLPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNITGL  
 LLTRDGGTEGNTENETEIFRPGGGDMRDNRSELYKYKVVKVEPLGVAPTRAKRRVQRMGARASVLSGG  
 ELDRWEKIRLRPGKKKYKLKHIVWASRELERFAVNPGLLETSEGRQILGQLQPSLQTGSEELRSLYNTV  
 ATLYCVHQRIEIKDTKEALDKIEEEQNKSKKAAQQAADTGHNSNQVSQNYPIVQNIQGQMVHQAIISRTL  
 AWVKVVEEKAFSPEVIPMFSALSEGATPQDLNTMLNTVGGHQAAMQMLKETINEEEAEWDRVHPVHAGPIA  
 PGQMREPRGSDIAGTTSTLQEIQIGWMTNNPPIPVGIEIYKRWIILGLNKIVRMSPTSILD  
 YVDRFYKTLRAEQASQEVKNWMETLLVQANPDCKTILKALGPAATLEEMMTACQGVGGPGHKARVLMGG  
 KWSKSSVVGWPTVRERMRAEPAADGVGAASRDLEKHGAITSNTAATNAACAWLEAQEEE  
 EVGFPVTPQVPLRPMTYKAAVDSLHFLKEKGGLIHSQRQDILD  
 LWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKL  
 VPVEPDKVEEANKGENTSAAHPVSLHGMDDPEREVLEWRFD  
 SRLAFHHVARELHPEYFKNCTSEPVDPRLE  
 PWKHPGSQPKTACTNCYCKCCFHCQVCFITAALG  
 ISYGRKKRQR  
 RPPQGSQTHQVSLSKOPTSQSKGE  
 PTGPKE [SEQ ID NO: 77]

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Fig.18.



## DNA sequence of insert

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 CGGACCCCAACCCCCAGGAGGTGGCTGGAAACGTGACCGAGTACTCAACATGTGGAAGAATAACATG  
 GTGGATCAGATGCACGAGGACATCATCTCTGTGGGACCAGTCCCTGAAGGCCCTGCGTGAAGCTGACGCC  
 TCTCTGCGTACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCAACAGCAACGGCTGGA  
 CGGAGAGATTCGGAAGGGCGAGATCAAGAACTGCTCCTCAATATCACGACCTCGATCAGAGACAAGGTG  
 CAGAAGGAATACGCGCTGTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATGCCACCAAGAA  
 CAAGACGACCGTAATTTCAGACTCATTCACTGCAACAGCAGCGTCAATGCGCAGGCCCTGCCCAAGGTG  
 CCTCGAACCAATCCGATCCATTACTGTGCCCTGGCGATTGCGATCCTCAAGTGTAAACAACAAGACC  
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 ACACCAAGACAATCATCGTCCAGCTGAACGAGTCTGTGGCGATTAACTGTACCCGGCTAACAAACAACC  
 CGTAAGGGCATCCACATCGGCCCTGGACGGGCTTCTATGCCGCCGCAAGATCATGGCGACATCGGCCA  
 GGCCATTGCAACCTCTCCCGCCCAAGTGGAAATAACACCCCTGAAGCAGATCGTATCAAGCTGAGAGAGC  
 ACTTTGGAAACAAGACCATCAAGTTCAATCAGAGTTCTGGCGAGACCCCGAGATCGTGCAGGCACTCC  
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 GGAGCAAAACAAGAGCAAGAAGAAGGCCAGCAGGCAGCTGCTGACACTGGGC  
 AGAAGTATCCATTGTC  
 GCCTGGGTGAAGGTTGCGAAGAGAAGGCC  
 TTTCTCCTGAGGTATCCCCATGTTCTCCGCTTGAGTGA  
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 ATCAGGCC  
 GCAATGCAATGT

## Fig.18 (Cont).

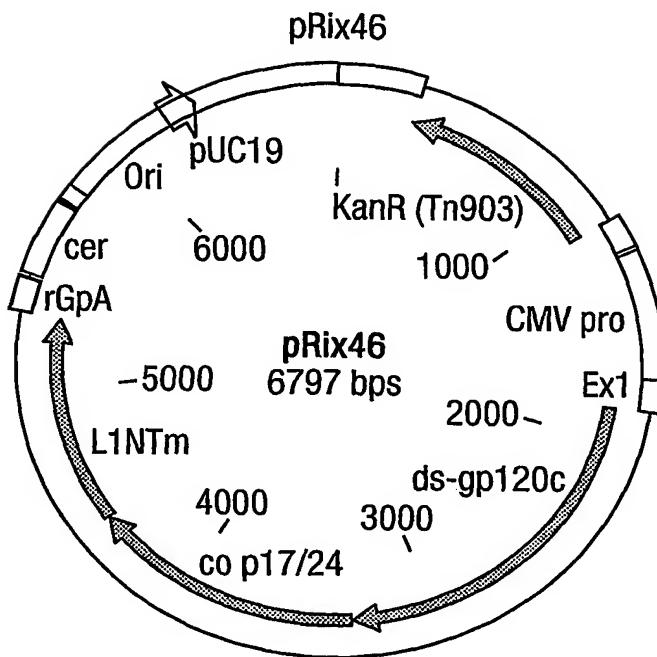
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 ATTGGCAGAACTACACACCAGGCCAGGGTCAGATATCCACTGACCTTGGATGGTGC TACAAGCTAGTA  
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 TGGAAGCATCCAGGAAGTCAGCCTAAACTGCTTGACCAATTGCTATTGTAAGGAGTGTGCTTCATTG  
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 ACAGGCCGAAGGAATAA [SEQ ID NO: 78]

### Aminoacid sequence of insert

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 QKEYALFYNLDVVPIDDDNATTKNKTTTRNFRLIHCNSSVMTQACPKVSFEPIPIHYCAPAGFAILKCNNKT  
 FDGKGLCTNVSTVQCTHGPVSTQLLLNGSLAEEEVIRSDNFMDNTKTIIVQLNESVAINCTRPNNNT  
 RKGIHIGPGRAYAARKIIGDIRQAHCNLSRAQWNNTLKQIVIKLREHFGNKTIFNQSSGGDPEIVRHSF  
 NCGGEFFYCDTTQLFNSTWNGTEGNNTENGNSTITLPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNITGL  
 LLTRDGGTEGNGTENETEIFRPGGGDMRDNRSELYKYKVVKVEPLGVAPTRAKRRVQRMGARASVLSGG  
 ELDRWEKIRLRPGKKKYKLKHIVWASRELERFAVNPGLLETSEGCRQILGQLQPSLQTGSEELRSLYNTV  
 ATLYCVHQRIEIKDTKEALDKIEEEQNKSKKAQQAAADTGHSNQVSQNYPIVQNIQGQMVHQAI SPRTLN  
 AWVKVVEEKAFSPEVIPMFSALSEGATPQDLNTMLNTVGGHQAAMQMLKETINEEEAEWDRVHPVAGPIA  
 PGQMREPRGSDIAGTTSTLQEIQGWMTNNPPIPVGIEYKRWIILGLNKIVRMYSPTSILDIRQGPKEPFRD  
 YVDRFYKTLRAEQASQEVKNWMTETLLVQANAPDCKTILKALGPAATLEEMMTACQGVGGPGHKARVLMGK  
 WSKSSVVGWPTVRERMRAEPAADGVGAASRDLEKHGAITSSNTAATNAACAWLEAQEEEVGFPVTPQVP  
 LRPMTYKAAVDSLHFLKEKGGLLEGLIHSQRRQDILDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLV  
 PVEPDKVEEANKGENTSAAHPVSLHGMDDPEREVLEWRFDSRLAFHHVARELHPEYFKNCTSEPVDPRLEP  
 WKHPGSQPKTACTNCYCKCCFHQCVCFTAALGISYGRKKRQRRPPQGSQTHQVSLSKQPTSQSKEP  
 TGPKE [SEQ ID NO: 79]

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Fig.19.



## DNA sequence of insert

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 GTGGATCAGATGCACGGAGGACATCATCTCTGTGGGACCAAGTCCCTGAAGCCCTGCGTGAAGCTGACGCC  
 TCTCTGCGTGAACACTGGACTGTGACGACGTCAACACCAACAGCACTACCACCAACAGCAACGGCTGGA  
 CGGGAGAGATTGGAAGGGCGAGATCAAGAACTGCTCCTTAATATCACGACCTCGATCAGAGACAAGGTG  
 CAGAAGGAATACGCGCTGTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATGCCACCAAGAA  
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**Fig.19 (Cont).**

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 GCTAATTCACTCCAAAGAACAGAACAGATATCCTTGATCTGTGGATCTACCACACACAAGGCTACTTCCCTG  
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 GCATGGAATGGATGACCCCTGAGAGAGAAGTGTAGAGTGGAGGTTGACAGCCGCTAGCATTCATCACG  
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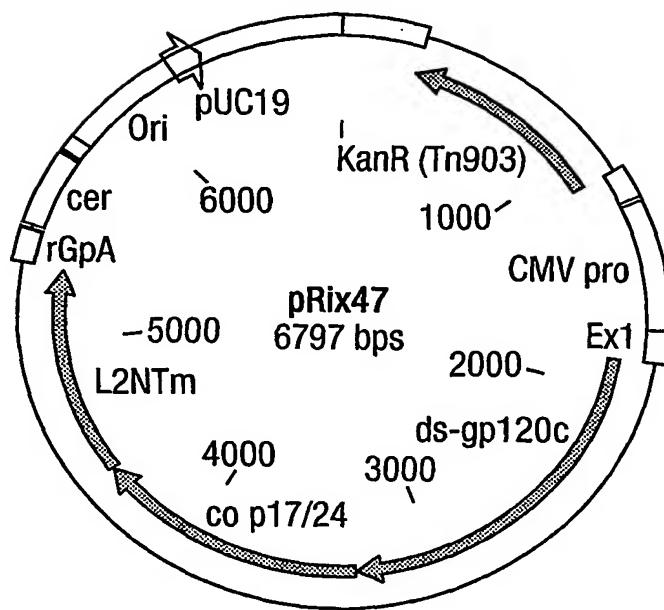
**Aminoacid sequence of insert**

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 QKEYALFYNLDVVPIDDDNATTKNKTRNFRLIHCNSSVMTQACPKVSEPIPIHYCAPAGFAILKCNNKT  
 FDGKGLCTNVSTVQCTH GIRPVSTQLLLNGSLAEEEVIRSDNFMDNTKTIIIVQLNESVAINC TRPNNNT  
 RKGIHIGPGRAYAARKIIGDIRQAHCNLSRAQWNNTLQIVIKLREHFGNKTIFNQSSGGDPEIVRHSF  
 NCGGEFFYCDTQLFNSTWNGTEGNNTEGNSTITLPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNITGL  
 LLTRDGGTEGNGTENETEIFRPGGDMRDNRSELYKYKVVKVEPLGVAPTRAKRRVVQRMGARASVLSGG  
 ELDRWEKIRLRPGKKYKLKHIVWASRELERFAVNPGLETSEGRQILGQLQPSLQTGSEELRSLYNTV  
 ATLYCVHQRIEIKDTKEALDKIEEEQNKSKKAQQAAADTGHSNQVSQNYPIVQNIQGQMVHQAI SPRLN  
 AWVKVVEEKAFSPEVIPMFSALSEGATPQLNMLNTVGGHQAAMQMLKETINEAAEWDRVHPVHAGPIA  
 PGQMREPRGSDIAGTTSTLQEIQIGWMTNNPPIPVGIEYKRWIIILGLNKIVRMYSPSTSILDIRQGPKEFRD  
 YVDRFYKTLRAEQASQEVKNWMTETLLVQANANPDCKTILKALGPAATLEEMMTACQGVGGPGHKARVLMGK  
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 WKHPGSQPKTACTNCYCKCCFHCQVCFITAALGISYGRKKRQRRPPQGSQTHQVSLSKQPTSQSKEP  
 TGPKE [SEQ ID NO: 81]

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Fig.20.

pRix47



## DNA sequence of insert

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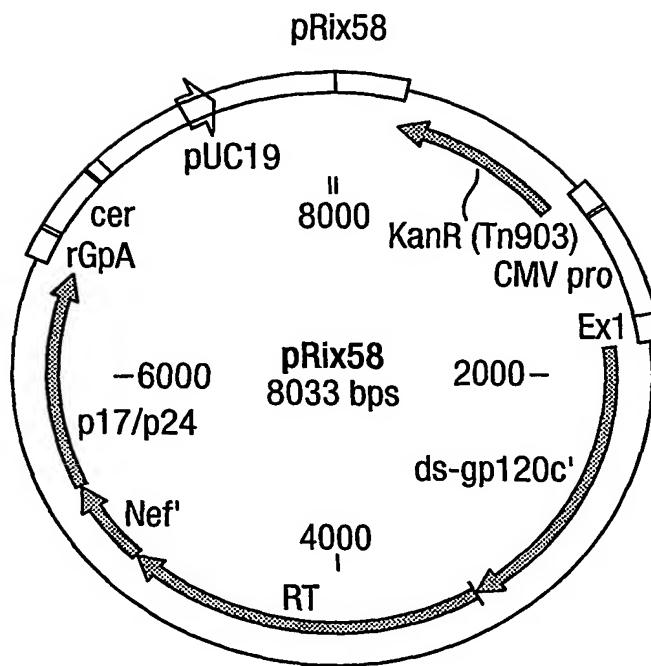
## Fig.20 (Cont).

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 ATGGATGACCAACAATCCTCCCATCCAGTTGGAGAAATCTATAAACGGTGGATCATTCTCGGTCTCAATA  
 AAATTGTTAGAATGTACTCTCCGACATCCATCCTTGACATTAGACAGGGACCCAAAGAGCCTTTAGGGAT  
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 GACACTCCTGGTACAGAACGCTAACCCCGACTGCAAACAAATCTTGAGGCACAGGGCCGGCTGCCACCC  
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 TGGTCAAAAGTAGTGTGGTTGGATGGCTACTGTAAGGGAAAGAATGAGACGAGCTGAGCCAGCAGCAGA  
 TGGGGTGGGAGCAGCATCTCGAGACCTGGAAAAACATGGAGCAATCACAAGTAGCAATACAGCAGCTACCA  
 ATGCTGCTGTGCCTGGCTAGAACGACAAGAGGAGGGAGGTGGTTTCCAGTCACACCTCAGGTACCT  
 TTAAGACCAATGACTTACAAGGCAGCTGTAGATCTAGCCACTTTAAAAGAAAAGGGGGACTGGAAGG  
 GCTAATTCACTCCAACGAAGACAAGATATCCTTGATCTGTGGATCTACCACACAAAGGCTACTCCCTG  
 ATTGGCAGAACTACACACCAGGGCCAGGGGTAGATATCCACTGACCTTGGATGGTGTACAAGCTAGTA  
 CCAGTTGAGCCAGATAAGGTAGAACAGGCAATAAAGGAGAGAACACCAGCTGGCACACCCCTGTGAGCCT  
 GCATGGAATGGATGACCTGAGAGAGAAGTGTAGAGTGGAGGTTGACAGCCGCTAGCATTTCATCACG  
 TGGCCCGAGAGCTGCATCCGGACTCTCAAGAACACTGCACTAGTGGCAGTAGATCCTAGACTAGAGCCC  
 TGGAAAGCATCCAGGAAGTCAGCCTAAACTGCTTGACCAATTGCTATTGTAAGGAGTGTGCTTCATTG  
 CCAAGTTGTTCTATAACAGCTGCCTAGGCATCTCTATGGCAGGAAGAAGCGGAGACAGCAGCAAGAC  
 CTCCTCAAGGCAGTCAGACTCATCAAAGCAACCCACCTCCCAATCAAAGGGGAGCCG  
 ACAGGCCGAAGGAATAA [SEQ ID NO: 82]

### Aminoacid sequence of insert

MAEQLWVTVYYGVPVWEATTLCASDAKAYDTEVHNWATHACVPTDPNPQEVLGNVTEYFNMWKNNM  
 VDQMHEIDIISLWDQSLKPCVKLPLCVTLDCDDVNTTNSTTTNSNGWTGEIRKGEIKNCSFNITTSIRDKV  
 QKEYALFYNLDVVPIDDDNATTKNKTRNFRЛИCNSSVMTQACPKVSEPIPIHYCAPAGFAILKCNNKT  
 FDGKGLCTNVSTVQCTHIGRPVSTQLLLNGSLAEEEVIRSDNFMDNTKTIIVQLNESVAINC TRPNNNT  
 RKGHIIGPGRAYAARKIIGDIRQAHCNLSRAQWNNTLKQIVIKLREHFGNKTIFNQSSGGDPEIVRHSF  
 NCGGEFFYCDTTQLFNSTWNGTEGNNTENSTILPCRICKQIINMWQEVGKAMYAPPIGGQIRCSSNITGL  
 LLTRDGGTEGNGTENETEIFRPGGGDMRDNRSELKYKVVKVEPLGVAPTRAKRRVVQRMGARASVLSGG  
 ELDRWEKIRLRPGGKKYKLKHIVWASRELERFAVNPGLETSEGCRCRQILGQLQPSLQTGSEELRSLYNTV  
 ATLYCVHQRIEIKDTKEALDKIEEEQNKSKKQAQQAADTGHNSQVSQNYPIVQNIQGQMVMHQAI SPTLN  
 AWVKVVEEKAFSPEVIPMFSALSEGATPQDLNTMLNTVGGHQAMQMLKETINEAAEDRVHPVHAGPIA  
 PGQMREPRGSIDIAGTTSTLQEIQIGWMTNNPPI PVGEIYKRWIILGLNKIVRMSPTSILDIRQGPKEPFRD  
 YVDRFYKTLRAEQASQEVKNWMETLLVQNANPDCKTILKALGPAATLEEMMTACQGVGGPGHKARVLMGK  
 WSKSSVVGWPTVRERMRAEPAADGVGAASRDLEKHGAI TSSNTAATNAACAWLEAQEEEVGFPVTPQVP  
 LRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLV  
 PVEPDKVEEANKGENTSLAHPVSLHGMDDPEREVLEWRFDSRLAFHHVARELHPEYFKNCTSEPVDPRL  
 WKHPGSQPKTACTNCYCKCCFHCQVCFITAALGISYGRKKRRQRRPPQGSQTHQVSLSKQPTSQSKEP  
 TGPKE [SEQ ID NO: 83]

Fig.21.

**DNA sequence of insert**

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 CGGACCCCACCCCCAGGAGGTGGTCTGGAAACGTGACCGAGTACTCAACATGTGAAAGAATAACATG  
 GTGGATCAGATGCACGAGGACATCATCTCTGTGGGACCAGTCCCTGAAGCCCTGCGTGAAGCTGACGCC  
 TCTCTGCGTACACTGGACTGTGACGACGTCAACACCAACAGCACTACCACCAACAGCAACGGCTGGA  
 CCGGAGAGATTCGGAAGGGCGAGATCAAGAACTGCTCCTCAATATCACGACCTCGATCAGAGACAAGGTG  
 CAGAAGGAATACGCGCTGTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATGCCACCAAGAA  
 CAAGACGACGCGTAATTCAGACTCATTCACTGCAACAGCAGCGTCACTGACGCAGGCTGCCCAAGGTGT  
 CCTTCGAACCAATCCCATTACTGTGCCCCGATTCGCGATCCTCAAGTGTAAACAACAAGACC  
 TTGACGGGAAGGGCTGTGCACCAACGTCAAGCACGGTGCAGTCACCGATGGCATCCGCCCCGTGAG  
 CACCCAGCTGCTGAACGGTCCCTGGCTGAGGAGGAGGTGGTGAATCCGGTGGACAACTTCATGGACA  
 ACACCAAGACAATCATCGTCCAGCTGAACGAGTCTGTGGCATTAACTGTACCCGGCTAACAAACACC  
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 GGCCCATTGCAACCTCTCCGCCAGTGGAAATAACACCCCTGAAGCAGATCGTATCAAGCTGAGAGAGC  
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 AACTGCGGGGGCGAGTTCTCTACTGCGATACGACACAGCTCTCAACTCCACCTGGAACGGCACCGAGGG  
 CAACAACACAGAGGGAAACTCCACTATCACCCCTTGGCGATCAAGCAGATCATCAACATGTGGCAGG  
 AGGTGGAAAGGCCATGTATGCCCTCCCATGGGGGCCAGATCCGCTGCTCCTCAACATCACCGGCCCTG  
 CTGCTCACCAAGAGACGGGGCACCGAGGGCAACGGCACGGAGAACGAGACGGAGATCTCAGGCCGG  
 CGCGACATGAGGGATAACTGGCGAGCGAGCTGTACAAGTACAAGTGGTGAAGGTGGAGGCCGCTGGCG  
 TGGCCCCCACCAGGGCAAGCGCCGCTGTGCAGAGAAATGGGCCATCAGTCCCATCGAGACCGTGGCG  
 GTGAAGCTGAAACCGGGATGGACGGCCCAAGGTCAAGCAGTGGCACTCAGCGAGGAGAACATCAAGG  
 CCTGGTGGAGATCTGCACCGAGATGGAGAAAGAGGGCAAGATCAGCAAGATCGGCCCTGAGAACCCATA  
 ACACCCCGTGTGTTGCATCAAGAAGAAGGACAGCACCAAGTGGCGAAGCTGGTGGATTCCGGAGCTG  
 AATAAGCGGACCCAGGATTCTGGGAGGTCCAGCTGGCATCCCCATCCGGCCGGCTGAAGAAGAAC  
 GAGCGTGACCGTGCTGGACGTGGCGACGCTTACTTCAGCGTCCCTCTGGACGAGGACTTTAGAAAGTACA  
 CCGCCTTACCATCCATCTATCAACAACGAGACCCCTGGCATCAGATATCAGTACAACGTCCTCCCCAG  
 GGCTGGAAGGGCTCCCGCATTTCAGAGCTCCATGACCAAGATCTGGAGGCCGTTGGAAAGCAGAA  
 CCCCAGATATCGTCATCTACCAAGTACATGGACGACCTGTACGTGGCTCTGACCTGGAAATCGGGCAGC

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## Fig.21 (Cont I).

GCACGAAGATTGAGGAGCTGAGGCAGCATCTGCTGAGATGGGGCTGACCACTCCGGACAAGAACATCAG  
 AAGGAGCCGCCATTCTGAAGATGGGCTACGAGCTCCATCCCGACAAGTGGACCGTGCAGCCTATCGCCT  
 CCCCAGAGAAGGACAGCTGGACCGTGAACGACATCCAGAAGCTGGTGGCAAGCTCAACTGGCTAGCCAGA  
 TCTATCCCAGGATCAAGGTGCCAGCTGCAAGCTGCTGCCGGCACCAAGGCCCTGACCGAGGTGATT  
 CCCCTCACGGAGGAAGCCGAGCTCGAGCTGGCTGAGAACCGGGAGATCCTGAAGGAGGCCGTGCACGGCGT  
 GTACTATGACCCCTCCAAGGACTGATCGCCAAATCCAGAAGCAGGGCAGGGCAGTGGACATACCCAGA  
 TTTACCAGGAGCCTTCAAGAACCTCAAGACCGCAAGTACGCCGATGAGGGCGCCACACCAACGAT  
 GTCAAGCAGCTGACCGAGGCCGTCAGAACAGATCACGACCGAGTCCATCGTATCTGGGGAAAGACACCCAA  
 GTTCAAGCTGCCATTCCAGAACGGAGACCTGGGAGACGTGGTGGACCGAATATTGGCAGGCCACCTGGATT  
 CCGAGTGGGAGTCGTGAATACACCTCTGGTGAAGCTGTGGTACCAAGCTCGAGAACGGAGCCATCGT  
 GGCGCGAGACATTCTACGTGGACGGCGCCAACCGCGAAACAAAGCTGGGAAGGCCGGTACGTCAC  
 CAACCGGGGCCAGAACGGTGTACCCGACACCACCAACCAGAACAGGGAGCTGCAGGCCATCT  
 ATCTCGCTCCAGGACTCCGGCTGGAGGTGAACATCGTGACGGACAGCCAGTACCGCCTGGCATTATT  
 CAGGCCAGCCGGACCAGTCCGAGAGCGAACCTGGTGAACCAGATTATCGAGCAGCTGATCAAGAAAGAGAA  
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 CGGGGATTAGAAAGGTGCTGATGGGGTTTCCAGTCACACCTCAGGTACCTTAAGACCAATGACTTAC  
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 AAGACAAGATATCCTTGATCTGTGGATCTACCACACACAAGGCTACTTCCCTGATTGGCAGAACTACACAC  
 CAGGGCCAGGGTCAGATATCCACTGACCTTGGATGGTGTACAAGCTAGTACCAAGTTGAGGCCAGATAAG  
 GTAGAAGAGGCCAATAAAGGAGAACACCCAGCTTGTACACCCCTGTGAGCCTGATGGGATGGATGACCC  
 GGAGAGAGAAGTGTAGGTGGAGGTTGACAGCCCTAGCATTTCATCACGTGGCCGAGAGCTGCATC  
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 TGAACGGTTGCCGTGAACCAGGCCTGTTGAAACATCTGAGGGATGTCGCCAGATCCTGGGCAATTGC  
 AGCCATCCCTCCAGACGGGAGTGAAGAGCTGAGGTCTGTATAACACAGTGGCTACCCCTACTGCGTA  
 CACCAGAGGATCGAGATTAAGGATACCAAGGAGGCCTTGGACAAAATTGAGGAGAGCAAAACAAGAGCAA  
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 AAAACATTCAAGGCCAGATGGTCATCAGGCCATCAGCCCCGGACGCTCAATGCCCTGGTGAAGGTGT  
 GAAGAGAAGCCTTCTCCTGAGGTATCCCCATGTTCTCCGCTTGAGTGGAGGGGCACTCCTCAGGA  
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 CCTCGCGGCTCTGACATTGCCGCCACCACCTCTACACTGCAAGAGCAAATCGGATGGATGACCAACAATCC  
 TCCCATCCCAGTTGGAGAAATCTATAAACGGTGGATCATCCTGGCCTGAACAAAGATCGTGCATGTACT  
 CTCCGACATCCATCCTGACATTAGACAGGGACCCAAAGAGCCTTTAGGGATTACGTCGACCGGTTTAT  
 AAGACCCCTGCGAGCAGAGCAGGGCTCTCAGGAGGTCAAAAATGGATGACGGAGACACTCCTGGTACAGAA  
 CGCTAACCCCGACTGCAAAACAATCTGAAGGCACTAGGCCGGCTGCCACCCCTGGAAGAGATGATGACCG  
 CCTGTCAGGGAGTAGGCCGGACCCGGACACAAAGCCAGAGTGGTAA [SEQ ID NO: 84]

## Aminoacid sequence of insert

MAEQLWVTVYYGVPVWKEATTILFCASDAKAYDTEVHNWATHACVPTDPNPQEVLGNVTEYFNMWKNNM  
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 QKEYALFYNLDVVPIDDDNATTKNKTRNFRLIHCNSSVMTQACPKVSFEPPIHYCAPAGFAILKCNNKT  
 FDGKGLCTNVSTVQCTH GIRPVVSTQLLNGSLAEEEVIRSDNFMDNTKTIIVQLNESVAINC TRPNNNT  
 RKGIHIGPGRAYAARKIIGDIRQAHCNLSRAQWNNTLKQIVIKLREHFGNKTIKFNQSSGGDPEIVRHSF  
 NCGGEFFYCDTQLFNSTWNGTEGNNTENSTITLPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNITGL  
 LLTRDGGTEGNGTENETEIFRPGGGDMRDNRSELKYKVVKVEPLGVAPTRAKRRVVQRMGPISPIETVP  
 VKLPGMDGPVKQWPITLEEKIKALVEICTEMEKEGKISKIGPENPYNTPVFAIKKKDSTKWRKLVDREL  
 NKRTQDFWEVQLGIPHPAGLKKKSVTLDVGDAYFSVPLDEDFRKYTAFTIIPSINNETPGIRYQYNVLPQ  
 GWKGSPAIQSSMTKILEPFRKQNPDIVIYQYMDDLYVGSDEIIGQHRTKIEELRQHLLRWGLTPDKKHQ  
 KEPPFLKMGYELHPDKWTVQPIVLPEKDSWTVDNIQKLVGKLNWASQIYPGIKVRLCKLLRGTKALTEVI  
 PLTEEEAELELAENREILKEPVHGYYDPSKDLIAEIQKQGQGWYQIYQEPFKNLTKGKYARMRAHTND  
 VKQLTEAVQKITTESIVIWGKTPFKLPIQETWETWWTEYWQATWIPEWEFVNTPPLVKLWYQLEKEPIV  
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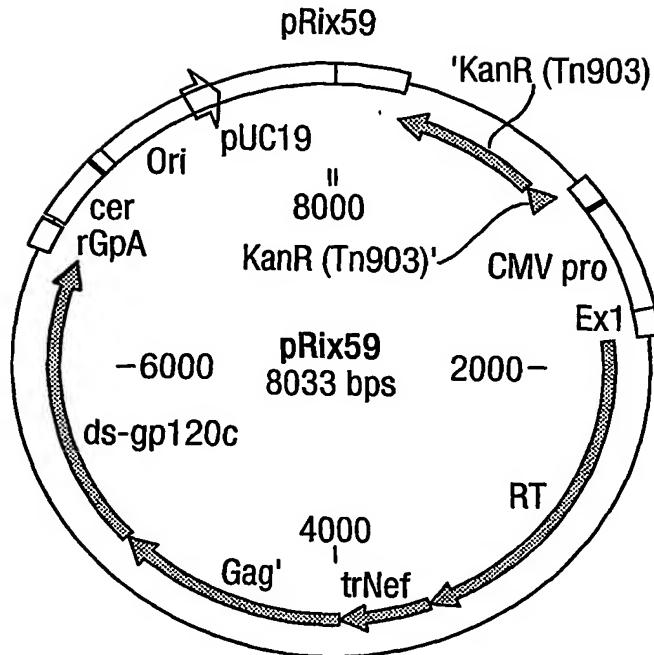
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## Fig.21 (Cont II).

QAQPDQSESELVNQIIEQLIKKEKVYLAWVPAHKIGGGNEQVDKLVSAGIRKVLMGFPVTPQVPLRPMTY  
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VEEANKGENTSLHPVSLHGMDDPEREVLEWRFDSSLAFHHVARELHPEYFKNCM GARASVLSGGELDRWE  
KIRLRPGGKKKYKLKHIVWASRELERFAVNPGLETSEGCRCQILGQLQPSLQTGSEELRSLYNTVATLYCV  
HQRIEIKDTKEALDKIEEEQNKSKKKAQQAAADTGHSNQVSQNYPIVQNIQGQM VHQAISPRTLNAWKVV  
EEKAFSPEVIPMFSALSEGATPQDLNTMLNTVGGHQAAAMQMLKETINEAAEWRVHPVHAGPIAPGQMRE  
PRGSDIAGTTSTLQEQIGWMTNNPPIPVGEIYKRWIILGLNKIVRMYSPSTSILDIRQGPKEPFRDYVDRFY  
KTLRAEQASQEVKNWMETLLVQNANPDCKTILKALGPAATLEEMMTACQGVGGPGHKARVL [SEQ ID  
NO: 85]

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Fig.22.



## DNA sequence of insert

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 AGATCAGCAAGATCGGGCCGGAGAACCCATACAACACCCCCGTGTTGCCATCAAGAAGAAGGGACAGCACC  
 AAGTGGCGCAAGCTGGTGGATTCCGGGAGCTGAATAAGCGGACCCAGGATTCTGGGAGGTCCAGCTGGG  
 CATCCCCCATCCGGCCGGCCTGAAGAAGAAGAGCGTGAACGTGCTGGACGTGGCGACGCTTACTTCA  
 GCGTCCCTCTGGACGAGGACTTTAGAAAGTACACCGCCTTACCATCCCATCTATCAACAAGGAGACCCCT  
 GGCATCAGATATCAGTACAACGTCCTCCCCCAGGGCTGGAAGGGCTCTCCGCCATTTCAGAGCTCCAT  
 GACCAAGATCCTGGAGGCCGTTCTGGAAAGCAGAACCCGATATCGTCATCTACCAAGTACATGGACGACCTGT  
 ACGTGGGCTCTGACCTGGAAATCGGGCAGCATTGCAAGAGATTGAGGAGCTGAGGAGCAGCATCTGCTGAGA  
 TGGGGCCTGACCCTCGGACAAGAAGCATCAGAAGGAGGCCATTCTGAAGAGATGGCTACGAGCTCCA  
 TCCCAGACAAGTGGACCGTGCAGCCTATCGTCCTCCCCGAGAAGGGACAGCTGGACCGTGAACGACATCCAGA  
 AGCTGGTGGCAAGCTCAACTGGCTAGCCAGATCTATCCGGGATCAAGGTGCCAGCTCTGCAAGCTG  
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 CGAAACAAAGCTCGGGAGGGCCGGTACGTCACCAACCGGGGCCAGAAGGTGTCACCCCTGACCGACA  
 CCACCAACCAGAACAGCGAGCTGCAGGCCATCTATCGCTCTCCAGGACTCCGGCTGGAGGTGAACATC  
 GTGACGGACAGCCAGTACCGCCTGGCATTATTCAAGGCCAGCCGGACAGTCCGAGAGCGAAGCTGGTGAAG  
 CCAGATTATCGAGCAGCTGATCAAGAAAGAGAAGGTCTACCTCGCTGGTCCCGGCCATAAGGGCATTG  
 GCGGCAACGAGCAGTCGACAAGCTGGTGAAGTGCAGGGATTAGAAAGGTGCTGATGGTGGGTTTCCAGTC  
 ACACCTCAGGTACCTTAAGACCAATGACTTACAAGGCAGCTGTAGATCTAGCCACTTTAAAAGAAAA  
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 AAGGCTACTTCCCTGATTGGCAGAACTACACACCAGGGCCAGGGTCAGATATCCACTGACCTTGGATGG  
 TGCTACAAGCTAGTACCAAGTTGAGCCAGATAAGGTAGAAGAGGCAATAAAAGGAGAGAACACCAGCTGTT  
 ACACCCCTGTGAGCCTGCATGGATGGATGACCCGGAGAGAGAAGTGTAGAGTGGAGGTTGACAGCCGCC

## Fig.22 (Cont I).

TAGCATTTCATCACGTGGCCCGAGAGCTGCATCCGGAGTACTTCAAGAACTGCATGGGTGCCCGAGCTTCG  
 GTACTGTCTGGTGGAGAGCTGGACAGATGGGAGAAAATTAGGCTGCGCCCGGGAGGCAAAAAGAAATACAA  
 GCTCAAGCATATCGTGTGGGCCTCGAGGGAGCTTGAACGGTTGCCGTGAACCCAGGCCTGCTGGAAACAT  
 CTGAGGGATGTCGCCAGATCCTGGGCAATTGCAGGCATCCCTCAGACCGGGAGTGAAGAGCTGAGGTCC  
 TTGTATAACACAGTGGTACCCCTACTGCCTACACCAGAGGATCGAGATAAGGATACCAAGGAGGCCTT  
 GGACAAAATTGAGGAGGAGCAAAACAAGAGCAAGAAGAAGGCCAGCAGGCAGCTGCTGACACTGGGCATA  
 GCAACCAGGTATCACAGAACTATCCTATTGTCCAAAACATTAGGGCCAGATGGTTCATCAGGCCATCAGC  
 CCCGGACGCTCAATGCCCTGGGTGAAGGGTGTGAAGAGAAGGCCTTCTCTCTGAGGTTATCCCCATGTT  
 CTCCGCTTGAGTGAGGGGCCACTCCTCAGGACCTCAATACAATGCTTAATACCGTGGGCCATCAGG  
 CGGCCATGCAAATGTTGAAGGAGACTATCACGAGGAGGCAGCTCGCGCTCTGACATTGCCGCACCCACTACACT  
 GCTGGCCCAATCGCAGCCGGACAGATGCGGGAGCCTCGCGCTCTGACATTGCCGCACCCACTACACT  
 GCAAGAGCAAATCGGATGGATGACCAACAATCCTCCATCCCAGTTGGAGAAATCTATAAACGGTGGATCA  
 TCCCTGGCCTGAACAAAGATCGTGCATGACTCTCCGACATCCATCCTTGACATTAGACAGGGACCCAAA  
 GAGCCTTTAGGGATTACGTCGACCGGTTTATAAGACCCCTGCGAGCAGGCAGGCCTCTCAGGAGGTC  
 AAACCTGGATGACGGAGACACTCCTGGTACAGAACGTAACCCGACTGCAAAACAATCTTGAGGCAGTAG  
 GCCCGCTGCCACCCCTGGAGAGATGATGACCGCCTGTCAGGGAGTAGCGGAGCCGGACACAAAGCCAGA  
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 CAAGAACAAAGACGACCGTAATTTCAGACTCATTCACTGCAACAGCAGCGTATGACGCAGGCCTGCC  
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 CGTGGACACCCAGCTGCTGAACGGGCTGGTGGAGGAGGTGGTGTCCGGACAACTTC  
 TGGACAACACCAAGACAATCATCGTCCAGCTGAACGGAGTCTGTGGCGATTA  
 ACTGTACCCGGCCTAACA  
 AACACCCGTAAGGGCATCCACATCGGGCCTGGACGGGCCTCTATGCCGCC  
 CAAGATCATCGGCACAT  
 CGGGCAGGCCATTGCAACCTCTCCCGGCCAGTGGATA  
 AACACCCCTGAAGCAGATCGTGTCAAGCTGA  
 GAGAGCACTTGGAAACAAGACCATCAAGTTCAATCAGAGTTCTGGCGAGACCCGAGATCGTGC  
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 CGAGGGCAACAACACAGAGGGAAACTCCACTATCACCC  
 CGTGCCTGCCATCAAGCAGATCATCAACATGT  
 GGCAGGAGGTGGAAAGGCCATGTATGCC  
 CCCTGCCAGATCCGCTGCTCCTCAACATCACC  
 GGCTGCTGCTCACCAAGAGACGGGGC  
 ACCGAGGGCAACGGCACGGAGAAC  
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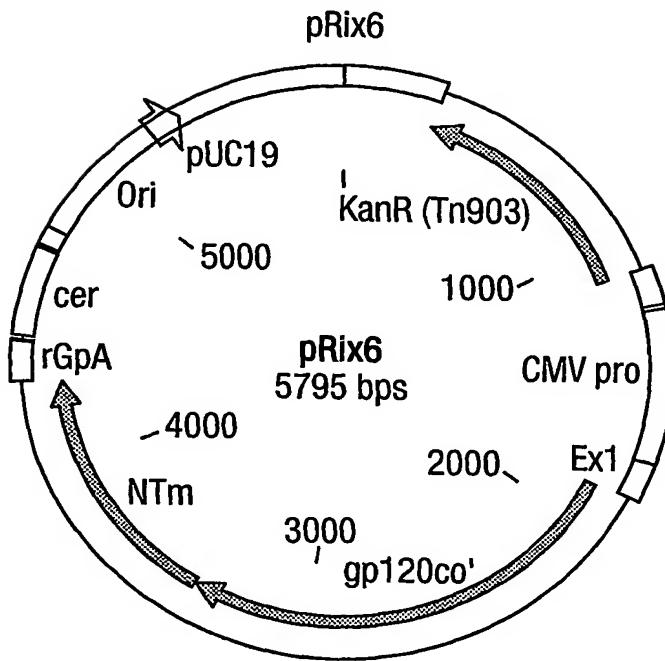
## Aminoacid sequence of insert

MGPISPIETVPVKLPGMDPKVKQWPLTEEKIKALVEICTEMEKEGKISKIGPENPYNTPVFAIKKKDST  
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 GIRDYQYNVLPGWKGSPAIFQSSMTKILEPFRKQNPDIVIYQYMDLYVGSDEIYQHRTKIEELRQHLLR  
 WGLTTPDKKHQKEPPFLKMGYELHPDKWTVQPIVLEPKDSWTVDIYQKLVGKLNWASQIYPGIKVQLCKL  
 LRGTKALTEVIPLEEEAELEAENREILKEPVHGYYYDPSKDLIAEIQKQGQGQWTYQIYQEPFKNLKTGK  
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 SAGIRKVL  
 MVGF  
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## Fig.22 (Cont II).

VLMAEQLWVTVYYGVPVWKEATTLFCASDAKAYDTEVHNWATHACVPTDPNPQEVLGNVTEYFNMWKN  
NMVDQMHEIDIISLWDQSLKPCVKLTPLCVTLDCDDVNTNSTTSNGWTGEIRKGEIKNCFSNITTSIRD  
KVQKEYALFYNLDVVPIDDDNATTKNKTRNFRЛИHCNSSVMTQACPKVSFEPIPIHYCAPAGFAILKCNN  
KTFDGKGLCTNVSTVQCTH GIRPVVSTQLLLNGSLAEEEVVI RSDNFMDNTKTIIVQLNESVAINCRPNN  
NTRKGIIHGPGRAYAARKIIGDIRQAHCNLSRAQWNNTLKQIVIKLREHFGNKTIKFNQSSGGDPEIVRH  
SFNCGGEFFYCDTTQLFNSTWNGTEGNNTEGNSTITLPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNIT  
GLLTRDGGEINGTENETEIFRPGGGDMRDNRSELYKYKVVKVEPLGVAPTRAKRRVVQR [SEQ ID  
NO: 87]

Fig.23.



## DNA sequence of insert

ATGAAGGTCAAGGAGACCAAGAAAGAACTACCAGCATCTGTGGCGCTGGGCACCATGCTCTGGGAATGCT  
 GATGATCTGCTCCGCCGCCGAGCAGCTGGGTACCGTCTACTACGGCGTGCCTGTGTGAAAGGAGGCCA  
 CGACCACCCCTTCTGCGCGAGCAGCCAAGGCCCTACGACACGGAAAGTGCATAACGTGTGGCGACGCAT  
 GCTTGCCTGCTACGGACCCCCAACCCCGAGGAGGTGGTGTGGAAACGTCACCGAGTACTTCAACATGTG  
 GAAGAATAACATGGTGGATCAGATGCACGGAGACATCATCTCTGTGGGACCAAGTCCCTGAAGCCCTGCG  
 TGAAGCTGACGCCCTCTGCGTGACACTGGACTGTGACGACGTCAACACCAACAGCACTACCACCA  
 AGCAACGGCTGGACGGAGAGATTCGGAAGGGCGAGATCAAGAACTGCTCTTCAATATCAGCACCTCGAT  
 CAGAGACAAGGTGCAGAAGGAATACGCGCTGTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATG  
 CCACCAACCAAGAACAGACGACGCTAATTTCAGACTCATTCACTGCAACAGCAGCGTATGACGCAAGGCC  
 TGCCCCAAGGTGTCTCGAACCAATCCCGATCCATTACTGTGCCCTGCCGGATTCGCGATCCTCAAGTG  
 TAACAACAAGACCTTCGACGGGAAGGGCTGTGCACCAACGTCAAGCAGGTGCAGTGCACCCATGGCATCC  
 GCCCGCTGTGAGCACCCAGCTGCTGCTGAACGGGCTCTGGCTGAGGAGGAGGTGGTGTCCGGTCGGAC  
 AACTTCATGGACAACACCAAGACAATCATCGTCCAGCTGAACGAGTCTGTGGCATTAACTGTACCCGGCC  
 TAACAACAACACCGTAAGGGCATCCACATCGGCCCTGGACGGGCTTCTATGCCGCCGCAAGATCATCG  
 GCGACATCCGGCAGGCCATTGCAACCTCTCCCGGCCAGTGGATAAACACCCCTGAAGCAGATCGTGATC  
 AAGCTGAGAGAGCACTTGGAAACAAGACCATCAAGTTCAATCAGAGTTCTGGGGAGACCCCGAGATCGT  
 GCGGCACTCCTCAACTCGGGGGCGAGTTCTACTGCGATACGACACAGCTCTCAACTCCACCTGG  
 ACGGCACCGAGGGCAACAAACACAGAGGGAAACTCCACTATCACCCCTCCCTGCCGCATCAAGCAGATCATC  
 AACATGTGGCAGGGAGGTGGAAAGGCCATGTATGCCCCCCCATGGGGGCCAGATCCGCTGCTCCTCCAA  
 CATCACCGGCTGCTGCTCACCAAGAGACGGGGGACCGAGGGCAACGGCACGGAGAACGAGACGGAGATCT  
 TCAGGCCCCGGCGGGGACATGAGGGATAACTGGCGAGCGAGCTGTACAAGTACAAGGTGGTGAAGGTG  
 GAGCCGCTGGCGTGGCCCCACCCGGCCAAGCGCCGCGTCGTGAGAGAATGGGTGGCAAGTGGTCAA  
 AAGTAGTGTGGTTGGATGGCTACTGTAAGGGAAAGAATGAGACGAGCTGAGCCAGCAGCAGATGGGGTGG  
 GAGCAGCATCTGAGACCTGGAAAAACATGGGCAATCACAAGTAGCAATACAGCAGCTACCAATGCTGCT  
 TGTGCTGGCTAGAACGACAAGAGGAGGAGGTGGTTTCCAGTCACACCTCAGGTACCTTTAAGACC  
 AATGACTTACAAGGCAGCTGTAGATCTAGCCACTTTTAAAAGAAAAGGGGGACTGGAAAGGGCTAATT  
 ACTCCCAACGAAGACAAGATATCCTTGATCTGTGGATCTACCACACACAAGGCTACTTCCCTGATTGGCAG  
 AACTACACACCAAGGGCCAGGGTCAGATATCCACTGACCTTGGATGGTGTACAAGCTAGTACCAAGGTTGA  
 GCCAGATAAGGTAGAACAGGCCAATAAGGAGAGAACACCAGCTTGTACACCCTGTGAGCCTGCATGGAA

## Fig.23 (Cont).

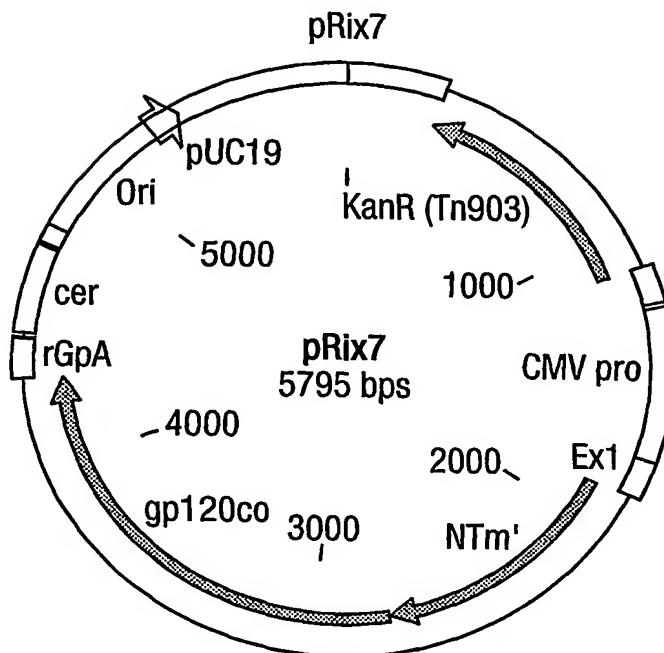
TGGATGACCTGAGAGAGAAGTGTAGAGTGGAGGTTGACAGCCGCCTAGCATTACATCACGTGGCCCGA  
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TCCAGGAAGTCAGCCTAAAAGTCTGTACCAATTGCTATTGTAAGGAAAGTGTGCTTCATTGCCAAGTTT  
GTTTCATAACAGCTGCCTAGGCATCTCTATGGCAGGAAGAAGCGGAGACAGCGACGAAGACCTCCTCAA  
GGCAGTCAGACTCATCAAGTTCTATCAAAGCAACCCACCTCCCAATCCAAGGGGAGCCGACAGGCC  
GAAGGAATAA [SEQ ID NO: 88]

### Aminoacid sequence of insert

MKVKETRKNYQHLWRWGTMLLGMLMICSAAEQLWVTVYYGVPVWKEATTLFCASDAKAYDTEVHNWATH  
ACVPTDPNPQEVLGNVTEYFNMWKNNMVDQMHEIDIISLWDQSLKPCVKLTPLCVTLDCDDVNTTNSTTT  
SNGWTGEIRKGEIKNCSFNITTSIRDKVQKEYALFYNLDVVPIDDDNATTKNKTRNFRLIHCNSSVMTQA  
CPKVSFEPIPIHYCAPAGFAILKCNNKTFDGKGLCTNVSTVQCTHIGRPVNSTQLLNGSLAEEEVIRSD  
NFMDNTKTIIQLNESVAINCTRPNNNTRKGIHIGPGRFYAARKIIGDIRQAHCLNSRAQWNNTLKQIVI  
KLREHFGNKTIFNQSSGGDPEIVRHSFNCGGEFFYCDTTQLFNSTWNNGTEGNNTEGNSTITLPCRIKQII  
NMWQEVGKAMYAPPIGGQIRCSSNITGLLLTDGGTEGNGTENETEIFFRPGGGDMRDNWRSELYKYKVVKV  
EPLGVAPTRAKRRVQRMGGKWSKSSVVGWPTVRERMRAEAEPADGVGAASRDLEKHGAITSSNTAATNAA  
CAWLEAQEEEVGFPVTPQVPLRPMTYKAADVDSLHFLKEKGGLEGLIHSQRRQDILDWIYHTQGYFPDWQ  
NYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLHPVSLHGMDDPEREVLEWRFDsRLAFHHVAR  
ELHPEYFKNCNSEPVDPRLEPWKHPGSQPKTACTNCYCKCCFHCQVCFITAALGISYGRKRRQRRPPQ  
GSQTHQVSLSKOPTSQSKGEPTGPKE [SEQ ID NO: 89]

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Fig.24.



## DNA sequence of insert

ATGGGTGGCAAGTGGTCAAAAAGTAGTGTGGTTGGATGGCCTACTGTAAGGAAAGAATGAGACGAGCTGA  
 GCCAGCAGCAGATGGGGTGGGAGCAGCATTCTGAGACCTGGAAAAACATGGAGCAATACAAGTAGCAATA  
 CAGCAGCTACCAATGCTGCTTGTGCCCTGGCTAGAACGACAAGAGGAGGAGGAGGAGGTTCCAGTCACA  
 CCTCAGGTACCTTTAACGACCAATGACTTACAAGGCAGCTGTAGATCTTAGCCACTTTAAAAGAAAAGGG  
 GGGACTGGAAGGGCTAATTCACTCCCACGAAGACAAGATATCCTGATCTGTGGATCTACCACACACAAG  
 GCTACTTCCCTGATTGGCAGAACATACACACCAGGGCCAGGGTCAGATATCCACTGACCTTGGATGGTGC  
 TACAAGCTAGTACCAAGTTGAGCCAGATAAGGTAGAACAGAGGCCAATAAAGGAGAGAACACCAGCTTGTACA  
 CCTCTGAGCCTGCATGGAATGGATGACCCCTGAGAGAGAACAGTGTAGAGTGGAGGTTGACAGCCGCTAG  
 CATTTCATCACGTGGCCCGAGAGCCTGCATCCGGAGTACTTCAAGAACTGCACACTAGTGAGCCAGTAGATCCT  
 AGACTAGAGCCCTGGAAGCATCCAGGAAGTCAGCCTAAACTGCTTGTACCAATTGCTATTGTAAAAAGTG  
 TTGCTTCATTGCCAAGTTGTTCTAAACAGCTGCCCTAGGCATCTCTATGGCAGGAAGAACGGAGAC  
 AGCGACGAAGACCTCCTCAAGGCAGTCAGACTCATCAAGTTCTATCAAAGCAACCCACCTCCCAATCC  
 AAAGGGGAGCCGACAGGCCGAAGGAATGAAGGTCAAGGAGACCAGAAAGAACATACCAAGCATCTGGCG  
 CTGGGGCACCAGTGTCTGGGAATGCTGATCTGCTCCGCCGAGCAGCTGTGGGTACCGTCTACT  
 ACGGCGTGCCTGTGGAGGAGGCCACGACCACCCCTCTGCGCGAGCGACGCCAAGGCCCTACGACACG  
 GAAGTGCATAACGTGTGGCGACGCATGCTGCGCTACGGACCCCAACCCCCAGGAGGTGGTGTGG  
 AACACGTGACCGAGTACTTCAACATGTGGAAAGAATAACATGGTGGATCAGATGCACGAGGACATCATCTC  
 TGTGGGACCAGTCCCTGAAGCCCTGCGTGAAGCTGACGCCCTCTGCGTGACACTGGACTGTGACGACGTC  
 AACACCAACAGCACTACCACCAAGCAACGGCTGGACCCGGAGAGATTGGAAGGGCGAGATCAAGAA  
 CTGCTCTTCAATATCACGACCTCGATCAGAGACAAGGTGCAGAAGGAATACGCCCTGTTTATAATCTCG  
 ATGTGGTCCCCATCGACGACGACAATGCCACCAAGAACAAAGACGACGCGTAATTTCAGACTCATTAC  
 TGCAACAGCAGCGTATGACGCAAGGCCCTGCCCAAGGTGTGCTTCAACCAATCCGATCCATTACTGTGC  
 CCCTGCCGGATTCGCGATCCTCAAGTGTAAACAACAAGACCTTGCACGGGAAGGGCCTGTGCACCAACGTCA  
 GCACGGTGCAGTGCACCCATGGCATCCGCCCGTGTGAGCACCAGCTGCTGTAACGGGTCCCTGGCT  
 GAGGAGGAGGTGGTGTACCGGTGGACAACTTCATGGACAACACCAAGACAATCATGTCAGCTGAACGA  
 GTCTGTGGCGATTAACGTACCCGGCTAACAAACAACACCCGTAAGGGCATCCACATCGGGCCTGGACGGG  
 CCTTCTATGCCGCCGCAAGATCATCGGCGACATCCGGCAGGGCCATTGCAACCTCTCCCGCGCCAGTGG  
 AATAACACCCCTGAAGCAGATCGTGTACAGCTGAGAGAGCACCTTGGAAACAAGACCATCAAGTTCAATCA  
 GAGTTCTGGCGGAGACCCCGAGATCGTGTGGCACTCCTCAACTGCCGGCGAGTTCTACTGCGATA  
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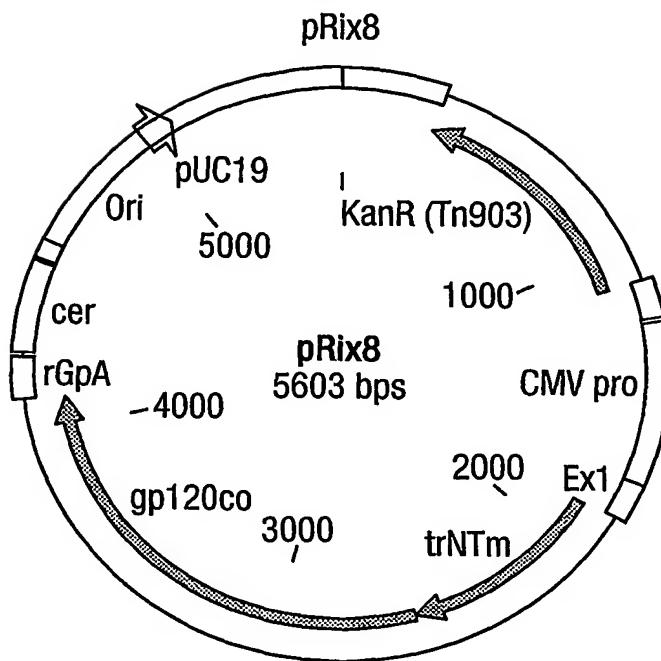
## Fig.24 (Cont).

CTCCCTTGCCGCATCAAGCAGATCATCAACATGTGGCAGGAGGTGGAAAGGCCATGTATGCCCCCCCAT  
CGGGGGCCAGATCCGCTGCTCCTCCAACATCACCGCCCTGCTGCTCACAGAGACGGGGCACCGAGGGCA  
ACGGCACGGAGAACGAGACGGAGATCTCAGGCCGGCGCGACATGAGGGATAACTGGCGGAGCGAG  
CTGTACAAGTACAAGGTGGTGAAGGTGGAGCCGCTGGCGTGGCCCCACCCGGCCAAGCGCCGCGTCGT  
GCAGAGATGA [SEQ ID NO: 90]

### Aminoacid sequence of insert

MGGKWSKSSVVGWPTVREMRAEPAADGVGAASRDLEKHGAITSNTAATNAACAWLEAQEEEEVGFPVT  
PQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRQDILDWIYHTQGYFPDWQNYTPGPGVRYPLTFGWC  
YKLVPVEPDKEEANKGENTSLHPVSLHGMDDPEREVLERWRFDSRLAFHHVARELHPEYFKNCTSEPVDP  
RLEPWKHPGSQPKTACTNCYCKKCCFHCQVCFITAALGISYGRKKRQRRRPPQGSQTHQVSLSKQPTSQS  
KGEPTGPKEMKVKETRKNYQHLWRWGTMLLGMLMICSAAEQLWVTVYYGVPVWKEATTLCASDAKAYDT  
EVHNVWATHACVPTDPNPQEVVILGNVTEYFNMWKNNMVDQMHEDEIISLWDQSLKPCVKLTPLCVTLDCDDV  
NTTNSTTSNGWTGEIRKGEIKNCSFNITTSIRDKVQKEYALFYNLDDVPIDDDNATTKNKTRNFRLIH  
CNSSVMTQACPKVSFEPPIHYCAPAGFAILKCNNKTFDGKGLCTNVSTVQCTH GIRPVVSTQLLLNGSLA  
EEEVVIIRSDNFMDNTKIIIVQLNESVAINCTRPNNNTRKGIIHIGPGRAYAARKIIGDIRQAHCNLSRAQW  
NNTLKQIVIKLREHFGNKTIFNQSSGGDPEIVRHSFNCGGEFFYCDTQLFNSTWNGTEGNNTEGNSTIT  
LPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNITGLLLTRDGGTEGNGTENETEIFRPGGDMRDNWRSE  
LYKYKVVKVEPLGVAPTRAKRRVVQR [SEQ ID NO: 91]

Fig.25.



## DNA sequence of insert

ATGGTGGGTTTCCAGTCACACCTCAGGTACCTTAAGACCAATGACTTACAAGGCAGCTGTAGATCTTAG  
 CCACTTTTAAAGAAAAGGGGGACTGGAAGGGCTAATTCACTCCAACGAAGACAAGATATCCTTGATC  
 TGTGGATCTACCACACACAAGGCTACTTCCCTGATTGGCAGAACTACACACCAGGGCCAGGGTCAGATAT  
 CCACTGACCTTGGATGGCTACAAGCTAGTACCAAGTGTGAGCCAGATAAGGTAGAAGAGGCCAATAAAGG  
 AGAGAACACCAAGCTGTTACACCTGTGAGCCTGCATGGAATGGATGACCTGAGAGAGAAGTGTAGAGT  
 GGAGGTTTGACAGCCGCTAGCATTTCATCACGTGCCCGAGAGCTGCACTCCGGAGTACTTCAAGAACTGC  
 ACTAGTGAGCCAGTAGATCCTAGACTAGAGCCCTGGAAGCATTCCAGGAAGTCAGCCTAAACTGCTTGAC  
 CAATTGCTATTGTAAGGAGTGTGCTTCATTGCCAAGTTGTTCATACAGCTGCCTTAGGCATCTCCT  
 ATGGCAGGAAGAACGGAGACAGCGACGAAGACCTCCTCAAGGCAGTCAGACTCATCAAGTTCTATCA  
 AAGCAACCCACCTCCCAATCCAAAGGGAGCCGACAGGCCGAAGGAATGAAGGTCAAGGAGACCAGAAA  
 GAACTACCAGCATCTGGCGCTGGGCACCATGCTCCTGGGAATGCTGATGATCTGCTCCGCCGCG  
 AGCTGTGGTCACCGTCTACTACGGCGTGCCTGTGGAAGGAGGCCACGACCACCCCTCTGCGCG  
 GACGCCAAGGCCTACGACACGGAAGTGCATAACGTGTGGGCACGCATGCTGCGTGCCTACGGACCCAA  
 CCCCCAGGAGGTTGGTGTGGAAACGTGACCGAGTACTTCAACATGTGGAAGAATAACATGGTGGATCAGA  
 TGCACGAGGACATCATCTCTGTGGGACCATGCTCCTGGGAATGCTGATGATCTGCTCCGCCGCG  
 AACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCAACGCCAGCAACGGCTGGACCGGG  
 TCGGAAGGGCGAGATCAAGAACTGCTCCTCAATATCACGACCTCGATCAGAGACAAGGTGCAGAAGGAAT  
 ACGCGCTGTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATGCCACCCACCAAGAACAGACG  
 CGTAATTTCAGACTCATTACTGTGCCCTGCCGGATTCGCGATCCTCAAGTGTAAACAACAAGACCTTC  
 AGGGCCTGTGCACCAACGTGACACGGTGCGAGTGCACCCATGGCATCCGCCCCGTGAGGACCCAGCTG  
 CTGCTGAACGGGTCCCTGGTGAGGAGGTGGTATCCGGTCGGACAACCTTCATGGACAACACCAAGAC  
 AATCATCGTCCAGCTGAACGAGTCTGTGGGATTAACGTACCCGGCTAACAAACAACACCGTAAGGGCA  
 TCCACATCGGGCCTGGACGGGCCTCTATGCCGCCGCAAGATCATCGCGACATCCGGCAGGCCATTGC  
 AACCTCTCCCGGCCAGTGGATAAACACCCCTGAAGCAGATCGTGTCAAGCTGAGAGAGCACTTGAAA  
 CAAGACCATCAAGTTCAATCAGAGTTCTGGCGGAGACCCCGAGATCGTGCAGGACTCCTCAACTGCCGG  
 GCGAGTTCTACTCGCATAAGCACAGCTCTCAACTCCACCTGGACGGCAGCGAGGGCAACAACACA  
 GAGGGAAACTCCACTATCACCCCTCCCTGCCGCATCAAGCAGATCATCAACATGTGGCAGGAGGTGGAAA  
 GGCCATGTATGCCCCCCCATGGGGCCAGATCCGCTGCTCCTCAACATCACCGCCCTGCTGCTCACCA  
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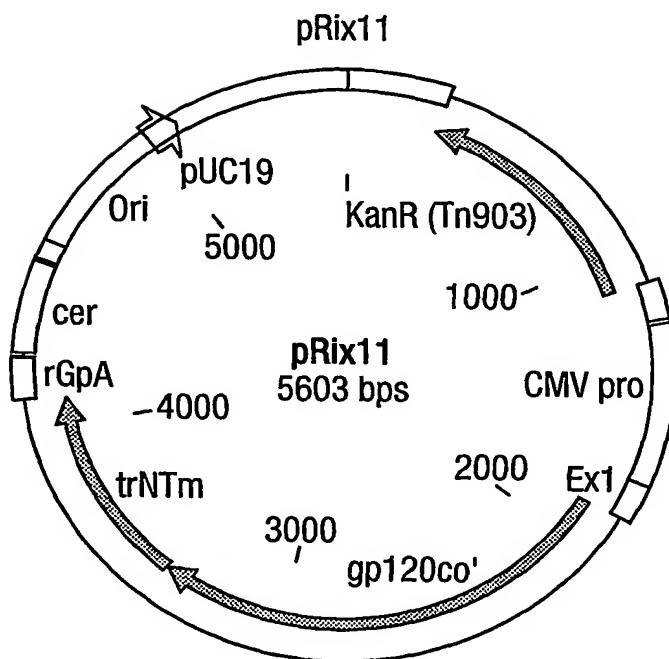
## Fig.25 (Cont).

AGGGATAACTGGCGGAGCGAGCTGTACAAGTACAAGGTGGTGAAGGTGGAGCCGCTCGCGTGGCCCCAC  
CCGGGCCAAGCGCCGCGTCGTGCAGAGATGA [SEQ ID NO: 92]

### Aminoacid sequence of insert

MVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLIHSQRQRDILDLWIYHTQGYFPDWQNYTPGPGVRY  
PLTFGWCYKLVPEPDKVEEANKGENTSLLHPVSLHGMDDPEREVLEWRFDSRLAFHHVARELHPEYFKNC  
TSEPVDPRLEPWKHPGSQPKTACTNCYCKCCFHCVCFITAALGISYGRKKRRQRRPPQGSQTHQVSL  
KQPTSQSKEPTGPKEMKVETRKNYQHLWRWGTMLLGMLMICSAAEQLWVTVYGVPVWEATTLFCAS  
DAKAYDTEVHNWATHACVPTDPNPQEVLGNVTEYFNMWKNNMVDQMHEDIISLWDQSLKPCVKLTPLCV  
TLDCDDVNTTNSTTSNGWTGEIRKGEIKNCSFNITTSIRDKVQKEYALFYNLDVVPIDDDNATTKNKTT  
RNFRLIHCNSSVMTQACPKVSFEPIPIHYCAPAGFAILKCNKTFDGKGLCTNVSTVQCTH GIRPVVSTQL  
LLNGSLAEEEVIRSDNFMDNTKTIIVQLNESVAINC TRPNNNTRKGIIHIGPGRAYAARKIIGDIRQAH  
NLSRAQWNNTLKQIVIKLREHFGNKTICKFNQSSGGDPEIVRHSFNCGEFFYCDTTQLFNSTWNGTEGNNT  
EGNSTITLPCRIKQIIINMWQEVGKAMYAPPPIGGQIRCSSNITGLLTRDGGTEGNGTENETEIFRPGGGD  
RDNWRSELYKYKVVKVEPLGVAPTRAKRRVVQR [SEQ ID NO: 93]

Fig.26.



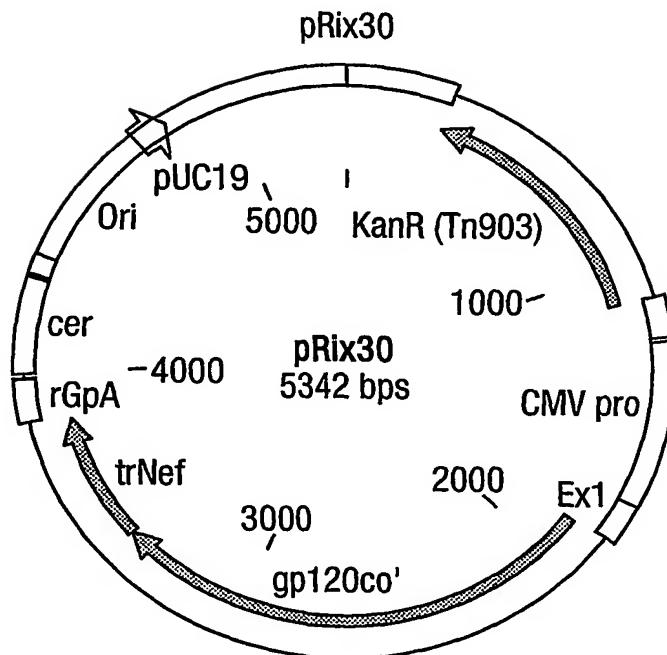
DNA sequence of insert

Aminoacid sequence of insert

MKVKETRKNYQHLWRWGTMLLGMLMICSAAEQLWVTVYYGVPVWKEATTLFCASDAKAYDTEVHNWATH  
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 SNGWTGEIRKGEIKNCFSNITTSIRDVKQKEYALFYNLVDVPIDDDNATTKNKTRNFRLLIHCNSSVMTQA  
 CPKVSFEPPIHYCAPAGFAILKCNNKTFDGKGLCTNVSTVQCTHGIRPVVSTQLLLNGSLAEEEVVIRSD  
 NFMDNTKTIIVQLNESVAINCTRPNNNTRKGIIHIGPGRAYAARKIIGDIRQAHCNLSRAQWNNTLKQIVI  
 KLREHFGNKTIFKNQSSGGDPEIVRHSFNCGGEFFYCDTTQLFNSTWNGTEGNNTTEGNSTITLPCRIKQII  
 NMWQEVGKAMYAPPIGGQIRCSSNITGLLTRDGGTEGNGTENETEIFRPGGGDMRDNWRSELYKYKVVKV  
 EPLGVAPTRAKRRVVQRMVGFPTPQVPLRPMTYKAAVDLSHFLKEKGGLLEGLIHSQRQDILDLWIYHTQ  
 GYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLHPVSLHGMDDPEREVLEWRFDRL  
 AFHHVARELHPEYFKNCTSEPVDPRLEPWKHPGSQPKTACTNCYCKKCCFHQCQVCFITAALGISYGRKKRR  
 QRRRPPQGSQTHQVSLSKQPTSQSKGEPTGPKE [SEQ ID NO: 94]

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Fig.27.



## DNA sequence of insert

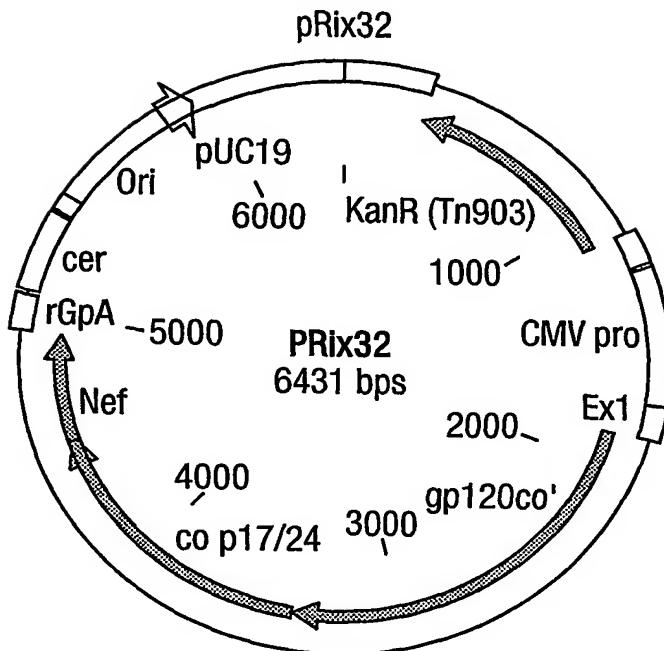
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 GCTTGCCTGCCTACGGACCCCAACCCCCAGGAGGTGGTGGTGGAAACGTGACCGAGTACTCAACATGTG  
 GAAGAATAACATGGTGGATCAGATGCACGAGGACATCATCTCTGTGGGACCAGTCCCTGAAGCCCTGCG  
 TGAAGCTGACGCCCTCTGCGTACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCC  
 AGCAACGGCTGGACCAGGAGAGATTGGAAAGGGCGAGATCAAGAACTGCTCCTTAATATCAGACCTCGAT  
 CAGAGACAAGGTGCAGAAGGAATACGGCGTGTGTTATAATCTGATGTGGTCCCCATGACGACGACAATG  
 CCACCAACAAAGACGACCGTAATTCACTGACACTCATGCAACAGCAGCGTCACTGACGAGGCC  
 TGCCCCAAGGTGTCTCGAACCAATCCCGATCCATTACTGTGCCCTGCCGATTGCGATCCTCAAGTG  
 TAACAACAAGACCTTCGACGGGAAGGGCTGTGCACCAACGTCAAGCAGGGTGCAGTGCACCCATGGCATCC  
 GCCCGCTGAGCAGCAGCTGCTGTAACGGGCTGGCTGAGGAGGAGGTGGTGTCCGGTCCGGAC  
 AACTTCATGGACAACACCAAGACAATCATCGTCAAGCTGAACGGAGTCTGTGGCATTAACTGTACCCGGCC  
 TAACAACAACACCGTAAGGGCATCCACATCGGGCTGGACGGGCTTCTATGCCGCCGAAAGATCATCG  
 GCGACATCCGGCAGGCCATTGCAACCTCTCCGCCAGTGGAAATAACACCCCTGAAGCAGATGTGATC  
 AAGCTGAGAGAGCACTTGGAAACAAGACCATCAAGTTCAATCAGAGTCTGGCGAGACCCGAGATCGT  
 GCGCACTCCTCAACTGCGGGCGAGTTCTACTGCGATACGACACAGCTCTCAACTCCACCTGG  
 ACGGCACCGAGGGCAACAACACAGAGGGAAACTCCACTATCACCCCTCCCTGCCGATCAAGCAGATCATC  
 AACATGTGGCAGGAGGTGGAAAGGCCATGTATGCCCTCCATGGGGGCCAGATCCGCTGCTCCTCAA  
 CATCACCGGCCTGCTGCTCACAGAGACGGGGCACCGAGGGCAACGGCACGGAGAACGAGACGGAGATCT  
 TCAGGCCCGGGCGGGGACATGAGGGATAACTGGCGAGCGAGCTGTACAAGTACAAGGTGGTGAAGGTG  
 GAGCCGCTGGCGTGGCCCCACCCGGCCAAGCGCCGCTGTGCAGAGAATGGTGGTTTCCAGTCAC  
 ACCTCAGGTACCTTAAGACCAATGACTACAAGGCAGCTGTAGATCTAGCCACTTTTAAAGAAAAGG  
 GGGGACTGGAAGGGCTAATTCACTCCAAACGAAGACAAGATACTCTTGATCTGTGGATCTACCAACACACAA  
 GGCTACTTCCCTGATTGGCAGAACTACACACCAGGGCCAGGGTCAGATATCCACTGACCTTGGATGGTG  
 CTACAAGCTAGTACCAAGTTGAGCCAGATAAGGTAGAAGAGGGCCAATAAAGGAGAGAACACCAGCTTAC  
 ACCCTGTGAGCCTGCATGGAATGGATGACCTGAGAGAGAACGAGTGTAGAGTGGAGGTTGACAGCGCCTA  
 GCATTTCATCAGTGGCCGAGAGCTGCATCCGGAGTACTTCAAGAACTGCTAA [SEQ ID NO: 95]

## Fig.27 (Cont).

### Aminoacid sequence of insert

MKVKE TRK NYQHL WRW GTMLLGMLM ICS AAEQLWVTVYYGVPVWKEATTTLFCASDAKAYDTEVHNWATH  
ACVPTDPNPQE VVLGNVTEYFNMWKNNMVDQMHE DIISLWDQSLKPCVKLTPLCVTLDCDDVNNTNSTTT  
SNGWTGEIRKGEIKNC SFNITTSIRD KVQKEYALFYNLDVVPIDDDNATTKNKTTRNFRLIHCNSSVMTQA  
CPKVS FEP IPIHYCA PAGFAILKCNNKT FDGKGLCTNVSTVQCTH GIRPVVSTQLLLNGSLAEEEVVIRSD  
NFMDNTKTIIVQLNESVAINCTRPNNNTRKG I HIGPGR AFYAARKIIGDIRQAHCNLSRAQWNNTL KQIVI  
KLREHFGNKT I KFNQSSGGDPEIVRHSFNC GGEFFYCDTTQLFNSTWNGTEGNNT EGNSTITLPCRIKQII  
NMWQEVGKAMYAPP IGGQIRCSSNITGLLLTRDGGTEGNGTENETE IFRPGGGDMRD NWRSELYKYKVVKV  
EPLGVAPTRAKRRVVQRMVGFVTPQVPLRPM TYKA AVDLSHFLKEKGGL EGLIHSQRRQDILD LWIYHTQ  
GYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLHPVSLHGMDDPEREVLEWRFDSRL  
AFHHVARELHPEYFKNC [SEQ ID NO: 96]

Fig.28.



## DNA sequence of insert

ATGAAGGTCAAGGAGACCAGAAAGAACTACCAGCATCTGTGGCGCTGGGGCACCATGCTCCTGGGAATGCT  
 GATGATCTGCTCCGCCGAGCAGCTGTGGGTACCGTCTACTACGGCGTGCCTGTGTGGAAGGAGGCCA  
 CGACCACCCCTTCTGCGCGAGCGACGCCAAGGCCCTACGACACGGAAAGTGCATAACGTGTGGCGACGCAT  
 GCTTGCCTGCCTACGGACCCCAACCCCCCAGGAGGTGGTGTGGAAACGTGACCGAGTACTTCAACATGTG  
 GAAGAATAACATGGTGGATCAGATGCACGGAGACATCATCTCTGTGGGACCAGTCCCTGAAGCCCTGCG  
 TGAAGCTGACGCCCTCTGCGTGACACTGGACTGTGACGACGTCAACACCAACAGCACTACCAACACC  
 AGCAACGGCTGGACCAGAGATTGGAAGGGCGAGATCAAGAACTGCTCCTTCAATATCAGGACCTCGAT  
 CAGAGACAAGGTGCAAGAAGGAATACGCGCTGTTTATAATCTCGATGTGGTCCCCATGACGACGACAATG  
 CCACCAACAAAGAACAGACGCCGTAATTCACTGCAACAGCAGCGTCATGACGAGGCC  
 TGCCCCAAGGTGCCTCGAACCAATCCCGATCCATTACTGTGCCCTGCCGATTGCGATCCTCAAGTG  
 TAACAACAAGACCTTCGACGGGAAGGGCCTGTGACCAACGTCAGCACGGTGAGTGCACCCATGGCATCC  
 GCCCGCTGAGCACCCAGCTGCTGAACGGTCCCTGGCTGAGGAGGAGGTGGTATCCGGTCGGAC  
 AACCTCATGGACAACACCAAGACAATCATCGTCCAGCTGAACGAGTCTGTGGGATTAACACTGTACCCGGCC  
 TAACAACAACACCGTAAGGGCATCCACATCGGCCCTGGACGGGCCTCTATGCCGCCGCAAGATCATCG  
 GCGACATCCGGCAGGCCATTGCAACCTCTCCGCCAGTGGAAATAACACCCCTGAAGCAGATCGTATC  
 AAGCTGAGAGAGCACTTGAAACAAGACCATCAAGTTCAATCAGAGTTCTGGGGAGACCCGAGATCGT  
 GCGGCACTCCTCAACTCGGGGGCGAGTTCTACTGCGATACGACACAGCTTCAACTCCACCTGGA  
 ACGGCACCGAGGGCAACAACACAGAGGGAAACTCCACTATCACCCCTCCCTGCCGATCAAGCAGATCATC  
 AACATGTGGCAGGGAGGTGGAAAGGCCATGTATGCCCTCCATCGGGGCCAGATCCGCTGCTCCTCAA  
 CATCACCGGCCCTGCTGCTCACCAAGAGACGGGGCACCGAGGGCAACGGCACGGAGAACGAGACGGAGATCT  
 TCAGGCCCGGGCGGGGACATGAGGGATAACTGGGGAGCGAGCTGTACAAGTACAAGGTGGTGAAGGTG  
 GAGCCGCTGGCGTGGCCCCACCCGGGCCAGCAGCCGCGTCGTGCAAGAGAATGGGTGCCGAGCTTCGGT  
 ACTGTCGGTGGAGAGCTGGACAGATGGGAGAAAATTAGGCTGCGCCGGAGGCAAAAGAAATACAAGC  
 TCAAGCATATCGTGTGGCCTCGAGGGAGCTTGAACGGTTGCCGTGAACCCAGGCCCTGCTGGAAACATCT  
 GAGGGATGTCGCCAGATCCTGGGCAATTGCAAGCCATCCCTCCAGACGGGGAGTGAAGAGCTGAGGTCTT  
 GTATAACACAGTGGCTACCCCTACTGCGTACACCAGAGGATCGAGATAAGGATACCAAGGAGGCCCTGG  
 AAAAAATTGAGGAGGAGCAAAACAAGAGCAAGAAGAAGGCCAGCAGGGAGCTGCTGACACTGGCATTAGC  
 AACCAAGGTATCACAGAACTATCCTATTGTCCAAAACATTCAAGGGCCAGATGGTTCATCAGGCCATTAGC  
 CCGGACGCTCAATGCCCTGGTGAAGGTTGCGAAGAGAAGGCCCTTCTCCTGAGGTTATCCCCATGTTCT

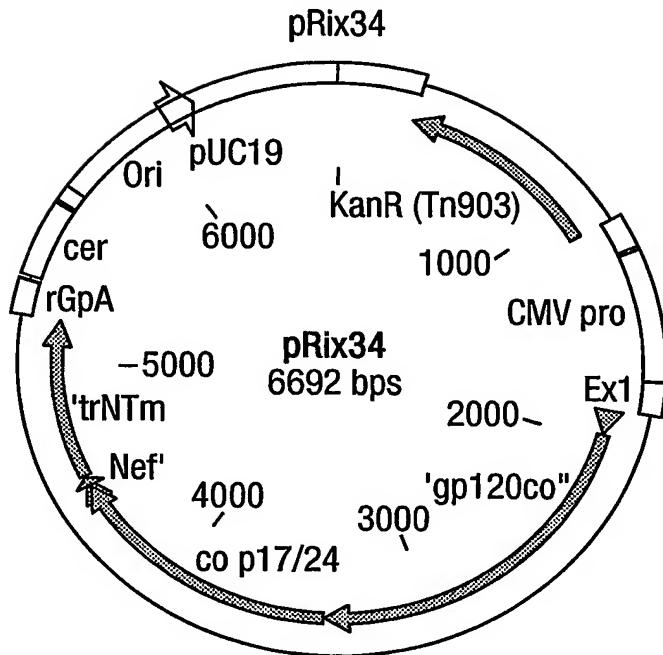
**Fig.28 (Cont.).**

CCGCTTGAGTGAGGGGGCACTCCTCAGGACCTCAATACAATGCTTAATACCGTGGCGGCCATCAGGCC  
 GCCATGCAAATGTTGAAGGAGACTATCAACGAGGAGGCAGCCGAGTGGGACAGAGTCATCCCGTCACGC  
 TGGCCCAATCGCGCCGGACAGATGCGGGAGCCTCGCGCTCTGACATTGCCGCACCACCTCTACACTGC  
 AAGAGCAAATCGGATGGATGACCAACAATCCTCCATCCCAGTTGGAGAAATCTATAAACGGTGGATCATT  
 CTCGGTCTCAATAAAATTGTTAGAATGTAATCTCCGACATCCATCCTGACATTAGACAGGGACCCAAAGA  
 GCCTTTAGGGATTACGTCGACCGGTTTATAAGACCCCTGCAGCAGAGCAGGCTCTCAGGAGGTCAAAA  
 ACTGGATGACGGAGACACTCCTGGTACAGAACGCTAACCCCGACTGCAAACAAATCTTGAAGGCACCTAGGC  
 CCGGCTGCCACCCCTGGAAGAGATGATGACCGCCTGTCAGGGAGTAGGCGGACCCGGACACAAAGCCAGAGT  
 GTTGATGGTGGGTTTCCAGTCACACCTCAGGTACCTTAAGACCAATGACTTACAAGGCAGCTGTAGATC  
 TTAGCCACTTTTAAAGAAAAGGGGGACTGGAAGGGCTAATTCACTCCAAAGAACAGAACAGATATCCTT  
 GATCTGTGGATCTACCACACACAAGGCTACTCCCTGATTGGCAGAACTACACACCAGGGCCAGGGTCAG  
 ATATCCACTGACCTTGGATGGTGTACAAGCTAGTACCAAGGTTGAGCCAGATAAGGTAGAAGAGGCAATA  
 AAGGAGAGAACACCAGCTTGTACACCCGTGAGCCTGCATGGATGGATGACCCGGAGAGAGAACAGTGTAA  
 GAGTGGAGGTTTGACAGCCGCTAGCATTACGTGGCCGAGAGCTGCATCCGGAGTACTTCAAGAA  
 CTGCTGA [SEQ ID NO: 97]

**Aminoacid sequence of insert**

MKVKETRKNYQHLWRWGTMLLGMLMICSAAEQLWVTVYYGVPVWKEATTLFCASDAKAYDTEVHNWATH  
 ACVPTDPNPQEVLGVNTEYFNMWKNNMVDQMHEIDIISLWDQSLKPCVKLPLCVTLDCDDVNTNSTTT  
 SNGWTGEIRKGEIKNCFSNITTSIRDKVQKEYALFYNDVPIDDDNATTKNKTRNFRIHCNSSSVMTQA  
 CPKVSFEPPIHYCAPAGFAILKCNNKTFDGKGLCTNVSTVQCTHGRPVSTQLLNGSLAEEEVIRSD  
 NFMDNTKTIIVQLNESVAINCTRPNNNTRKGHIHGPGRFYAARKIIIGDIRQAHCNLSRAQWNNTLKQIVI  
 KLRHFGNKTIFNQSSGGDPEIVRHSFNCGGEFYCDTQLFNSTWNGTEGNNTTEGNSTITLPCRIKQII  
 NMWQEVGKAMYAPPIGGQIRCSSNITGLLTRDGTEGNGTENETEIFRPGGGDMRDNWRSLEYKYKVVKV  
 EPLGVAPTRAKRRVVQRMGARASVLSGGELDRWEKIRLRPGKKYKLKHIVWASRELERFAVNPGLLETS  
 EGCROILGQLQPSLQTGSEELRSLYNTVATLYCVHQRIEIKDTKEALDKIEEEQNKSKKAQQAAADTGH  
 SQVSQNYPIVQNIQGQMVHQAISSPRTLNAWVKVVEEKAFSPEVIPMFALSEGATPQDLNTMLNTVGGHQ  
 AMQMLKETINEEAEWDRVHPVHAGPIAPGQMRERGSDIAGTTSTLQEIQIGWMTNNPPIPVG  
 EYKRWII  
 LGLNKIVRMSPTSILDIRQGPKEPFRDYVDRFYKTLRAEQASQEVKNWMETLLVQNANPDCKTILKALG  
 PAATLEEMMTACQGVGGPGHKARVLMVGFPTPQVPLRPMTYKAADVLSHFLKEKGGLLEGLIHSQRQDIL  
 DLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLHPVSLHGMDDPEREV  
 EWRFDSRLAFHHVARELHPEYFKNC [SEQ ID NO: 98]

Fig.29.



## DNA sequence of insert

ATGAAGGTCAAGGAGACCAGAAAGAACTACCAGCATCTGTGGCGTGGGCACCATGCTCTGGGAATGCT  
 GATGATCTGCTCCGCCGCCGAGCAGCTGTGGGTACCGTCTACTACGGCGTGCCTGTGTGAAAGGAGGCCA  
 CGACCACCCCTTCTGCGCGAGCGACGCAAGGCCCTACGACACGGAAAGTGCATAACGTGTGGCGACGCAT  
 GCTTGCCTACGGACCCCAACCCCCAGGAGGTGGTGTGGAAACGTGACCGAGTACTTCACATGTG  
 GAAGAATAACATGGTGGATCAGATGCACGGAGACATCATCTCTGTGGGACCAGTCCCTGAAGCCCTGCG  
 TGAAGCTGACGCCCTCTGCGTGACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCACC  
 AGCAACGGCTGGACGGAGAGATTCGGAAGGGCGAGATCAAGAACTGCTCTTAATATCACGACCTCGAT  
 CAGAGACAAGGTGAGAAGGAATACGCCTGTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATG  
 CCACCAAGAACAGACGACCGTAATTCAGACTCATTCACTGCAACAGCAGCGTATGACGCAGGCC  
 TGCCCCAAGGTGTCCCTCGAACCAATCCCGATCCATTACTGTGCCCCCTGCCGGATTCGCGATCCTCAAGTG  
 TAACAACAAGACCTTCGACGGGAAGGGCTGTGCAACCAACGTCAGCACGGTGCAGTGCACCCATGGCATT  
 GCCCCGTCGTGAGCACCCAGCTGCTGAACGGGCTCTGGCTGAGGAGGGAGGTGGTATCCGGTCGGAC  
 AACTTCATGGACAACACCAAGACAATCATCGTCCAGCTGAACGAGTGTGGGATTAACTGTACCCGGCC  
 TAACAACAACACCGTAAGGGCATCCACATCGGGCCTGGACGGGCCTCTATGCCGCCGCAAGATCATCG  
 GCGACATCCGGCAGGGCCATTGCAACCTCTCCGGCCAGTGGAAATAACACCCCTGAAGCAGATCGTGATC  
 AAGCTGAGAGAGCATTGGAAACAAGACCATCAAGTTCAATCAGAGTTCTGGCGAGACCCGAGATCGT  
 GCGGCACTCCTCAACTGCGGGGGCGAGTTCTACTGCGATACGACACAGCTCTCAACTCCACCTGG  
 ACGGCACCGAGGGCAACAACACAGAGGGAAACTCCACTATCACCCCTTGGCGCATCAAGCAGATCATC  
 AACATGTGGCAGGAGGTGGAAAGGCCATGTATGCCCTCCATGGGGCCAGATCCGCTGCTCCTCCAA  
 CATCACCGGCCTGCTGTCACCAAGAGACGGGGCACCGAGGGCAACGGCACGGAGAACGAGACGGAGATCT  
 TCAGGGCCGGCGCGACATGAGGGATAACTGGCGAGCGAGCTGTACAAGTACAAGGTGGTGAAGGTG  
 GAGCCGCTGGCGTGGCCCCACCCGGGCAAGCGCCGCGTGCAGAGAAATGGTGCCCGAGCTCGGT  
 ACTGTCTGGTGGAGAGCTGGACAGATGGGAGAAAATTAGGCTGCGCCGGAGGGCAAAAGAAATACAAGC  
 TCAAGCATATCGTGTGGCCTCGAGGGAGCTTGAACGGTTGCGTGAACCCAGGCTGCTGGAAACATCT  
 GAGGGATGTCGCCAGATCCTGGGCAATTGCAAGCCATCCCTCCAGACCGGGAGTGAAGAGCTGAGGTCTT  
 GTATAACACAGTGGCTACCCCTACTGCGTACACCAAGAGGATCGAGATAAGGATAACCAAGGAGGCCTTGG  
 AAAAAATTGAGGAGGAGCAAAACAAGAGCAAGAAGAAGGCCAGCAGGCAGCTGCTGACACTGGGCAATAGC  
 AACCAAGGTATCACAGAACTATCCTATTGTCCAAACATTCAAGGGCCAGATGGTTCATCAGGCCATCAGGCC  
 CGGACGCTCAATGCTGGGTGAAGGTTGCGAAGAGAAGGCCCTTCTCTGAGGTTATCCCCATGTTCT  
 CCGCTTGAGTGAGGGGCCACTCCTCAGGACCTCAATACTGCTTAATACCGTGGCGGCCATCAGGCC

## Fig.29 (Cont).

GCCATGCAAATGTTGAAGGGAGACTATCAACGAGGAGGCAGCCGAGTGGGACAGAGTGCATCCCGTCCACGC  
 TGGCCCAATCGCGCCGGACAGATGCAGGGAGCCTCGCGCTCTGACATTGCCGGCACCACTCTACACTGC  
 AAGAGCAAATCGGATGGATGACCAACAATCCTCCCATCCCAGTTGGAGAAATCTATAAACGGTGGATCATT  
 CTCGGTCTCAATAAAATTGTTAGAATGTACTCTCCGACATCCATCCTGACATTAGACAGGGACCCAAAGA  
 GCCTTTAGGGATTACGTCGACCGGTTTATAAGACCCCTGCGAGCAGAGCAGGGCTCTCAGGAGGTCAAAA  
 ACTGGATGACGGAGACACTCCTGGTACAGAACGCTAACCCGACTGCAAAACAATCTTGAAGGCAGTAGGC  
 CCGGCTGCCACCCCTGGAAGAGATGATGACCGCCTGTCAGGGAGTAGGCGGACCCGGACACAAAGCCAGAGT  
 GTTGTGGTGGGTTTCCAGTCACACCTCAGGTACCTTAAGACCAATGACTTACAAGGCAGCTGTAGATC  
 TTAGCCACTTTAAAAGAAAAGGGGGACTGGAAGGGCTAATTCACTCCCAACGAAGACAAGATATCCTT  
 GATCTGTGGATCTACCACACACAAGGCTACTCCCTGATTGGCAGAACTACACACCAGGGCAGGGTCAG  
 ATATCCACTGACCTTGGATGGTGTACAAGCTAGTACCAAGTGTAGCCAGATAAGGTAGAAGAGGCCAATA  
 AAGGAGAGAACACCAGTTGTTACACCTGTGAGCCTGCATGGAATGGATGACCCAGAGAGAAGTGT  
 GAGTGGAGGTTTGACAGCCGCCTAGCATTTCATCACGTGGCCGAGAGCTGCATCCGGAGTACTTCAAGAA  
 CTGCACTAGTGAGCCAGTAGATCCTAGACTAGAGCCCTGGAAGCATCCAGGAAGTCAGCCTAAACTGCTT  
 GTACCAATTGCTATTGTTAAAAGTGTGCTTCATTGCCAAGTTGTTCATAACAGCTGCCTAGGCATC  
 TCCTATGGCAGGAAGAACGGGAGACAGCGACGAAGACCTCCTCAAGGCAGTCAGACTCATCAAGTTCTCT  
 ATCAAAGCAACCCACCTCCAATCCAAAGGGAGCCGACAGGCCGAAGGAATAA [SEQ ID NO: 99]

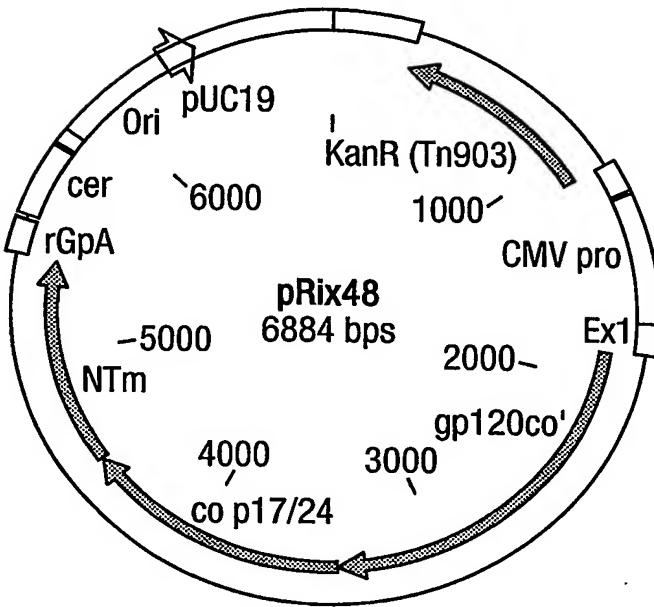
### Aminoacid sequence of insert

MKVKETRKNYQHLWRWGTMLLGMLMICSAAEQLWVTVYYGVPVWKEATTLFCASDAKAYDTEVHNWATH  
 ACVPTDPNPQEVLGVNTVEYFNMWKNMVDQMHEDIISLWDQSLKPCVKLTPLCVTLDCDDVNTTNSTTT  
 SNGWTGEIRKGEIKNCFSNITTSIRDVKQKEYALFYNLDVPIDDNATTKNKTRNFRLIHCNSSVMQ  
 CPKVSFEPPIHYCAPAGFAILKCNKTFDGKGLCTNVSTVQCTHGRPVVSTQLLNGSLAEEEVIRSD  
 NFMDNTKTIIVQLNESVAINCTRPNNNTRKGHIHGPGRFYAARKIIGDIRQAHCNLSRAQWNNTLKQIVI  
 KLREHFGNKTIFNQSSGGDPEIVRHSFNCGGEFFYCDTTQLFNSTWNGTEGNNTEGNSTITLPCRIKQII  
 NMWQEVGKAMYAPPIGGQIRCSSNITGLLTRDGGTEGNGTENETEIFRPGGGDMRDNWRSELYKYKVVKV  
 EPLGVAPTRAKRRVQRMGARASVLSGGELDRWEKIRLRPGGKKYKLHIVWASRELERFAVNPGLETS  
 EGCRQILGQLQPSLQTGSEELRSLYNTVATLYCVHQRIEIKDTKEALDKIEEEQNKSKKAAQQAAADTGH  
 NOVSQNYPIVONIQGOMVHQAISSPRTLNAWVKVVEEKAFSPEVPMFSALSEGATPQDLNTMLNTVGGHQA  
 AMQMLKETINEEEAEWDRVHPVHAGPIAPGQMREPRGSDIAGTTSTLQEIQIGWMTNNPPIPVGEIYKRWII  
 LGLNKIVRMYSPTSILDIRQGPKEPFRDYVDRFYKTLRAEQAQSQEVKNWMTEPLLQVQANPDCKTILKALG  
 PAATLEEMMTACQGVGGPGHKARVLMVGFPTPQVPLRPMTYKAADVLSHFLKEKGGLGELIHSQRQDIL  
 DLWIYHTQGYFPDWQNYTPGPVRYPLTFGWCYKLVPEPDKVEEANKGENTSLHPVSLHGMDDPEREVL  
 EWRFDSRLAFHHVARELHPEYFKNTSEPVDPRLEPWKHPGSQPKTACTNCYCKKCCFHCQVCFITAALGI  
 SYGRKKRRQRRLPPQGSQTHQVSLSKQPTSQSKEPTGPKE [SEQ ID NO: 100]

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Fig.30.

pRix48



## DNA sequence of insert

ATGAAGGTCAAGGAGACCAGAAAGAACTACCAGCATCTGTGGCGCTGGGCACCATGCTCCTGGGAATGCT  
 GATGATCTGCTCCGCCGAGCAGCTGTGGGTACCGTCTACTACGGCGCTGTGTGGAAGGAGGCCA  
 CGACCACCCCTTTCTGCGCGAGCGACGCCAAGGCCAACGACACGGAAAGTGCATAACGTGTGGCGACGCAT  
 GCTTGCCTGCGCTACGGACCCCCAACCCCCAGGAGGTGGTGTGGAAACGTGACCGAGTACTTCAACATGTG  
 GAAGAATAACATGGTGGATCAGATGCACCGAGGACATCATCTCTGTGTGGACCAGTCCCTGAAGCCCTGCG  
 TGAAGCTGACGCCCTCTGCGTGACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCACC  
 AGCAACGGCTGGACCGGAGAGATTGGAAGGGCGAGATCAAGAACTGCTCCTCAATATCACGACCTCGAT  
 CAGAGACAAGGTGCAAGGAATACGCGCTGTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATG  
 CCACCAAGAACAGACGACCGTAATTTCAGACTATTCACTGCAACAGCAGCGTCATGACGCAGGCC  
 TGCCCCAAGGTGTCCCTCGAACCAATCCGATCCATTACTGTGCCCCCTGCCGGATTGCGATCCTCAAGTG  
 TAACAACAAGACCTTCGACGGAAAGGGCCTGTGCAACCAACGTCAGCACGGTGCACTGCACCCATGGCATCC  
 GCCCGTCGTGAGCACCCAGCTGCTGTAACGGGCTGGCTGAGGAGGGAGGTGGTATCCGGTCGGAC  
 AACTTCATGGACAACACCAAGACAATCATCGTCCAGCTGAAACGAGTCTGTGGGATTAACGTACCCGGCC  
 TAACAACAACACCGTAAGGGCATCCACATGGGCTGGACGGGCTCTATGCCGCCGCAAGATCATCG  
 GCGACATCCGGCAGGGCCATTGCAACCTCTCCCGCAGTGGAAATAACACCCCTGAAGCAGATCGTGCATC  
 AAGCTGAGAGAGCACTTGGAAACAAGACCATCAAGTTCAATCAGAGTTCTGGGGAGACCCGAGATCGT  
 GCGGCACTCCTCACTGCGGGGGCGAGTTCTCTACTGCGATACGACACAGCTCTCAACTCCACCTGGA  
 ACGGCACCGAGGGCAACAACACAGAGGGAAACTCCACTATCACCCCTCCCTGCCGCATCAAGCAGATCATC  
 AACATGTGGCAGGAGGTGGAAAGGCCATGTATGCCCTCCATCGGGGCCAGATCCGCTGCTCCCTCAA  
 CATCACCGGCCTGCTGTCACCAAGAGACGGGGGCCACCGAGGGCAACGGCACGGAGACAGGAGATCT  
 TCAGGCCCGCGGGCGACATGAGGGATAACTGGGGAGCTGTACAAGTACAAGGTGGTGAAGGTG  
 GAGCCGCTCGGCGTGGCCCCCACCGGGCAAGGCCCGCTGCGTGCAGAGAATGGGTGCCAGCTCGGT  
 ACTGTCTGGTGGAGAGCTGGACAGATGGGAGAAAATTAGGCTGCGCCGGAGGCCAAAAGAAATACAAGC  
 TCAAGCATATCGTGTGGCCTCGAGGGAGCTGAAACGGTTGCGTGAACCCAGGCCGCTGAAACATCT  
 GAGGGATGTCGCCAGATCCTGGGCAATTGCGACGCCATCCCTCCAGACGGGAGTGAAGAGCTGAGGTCC  
 GTATAACACAGTGGCTACCCCTACTGCGTACACCAGAGGGATCGAGATTAAGGATACCAAGGAGGCC  
 AACAAATTGAGGAGGGAGCAAAACAAGAGCAAGAAGAAGGCCAGCAGGCAGCTGCTGACACTGGGC  
 AACAGGTATCACAGAACTATCCTATTGTCAAAACATTCAAGGGCCAGATGGTCATCAGGCCATCAGGCC  
 CGGACGCTCAATGCTGGGTGAAGGTTGCGAAGAGAAGGGCTTCTCTGAGGTATCCCCATGTTCT  
 CCGCTTGAGTGAGGGGCCACTCCTCAGGACCTCAATACAATGCTTAATACCGTGGCGCCATCAGGCC  
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 CACGCC

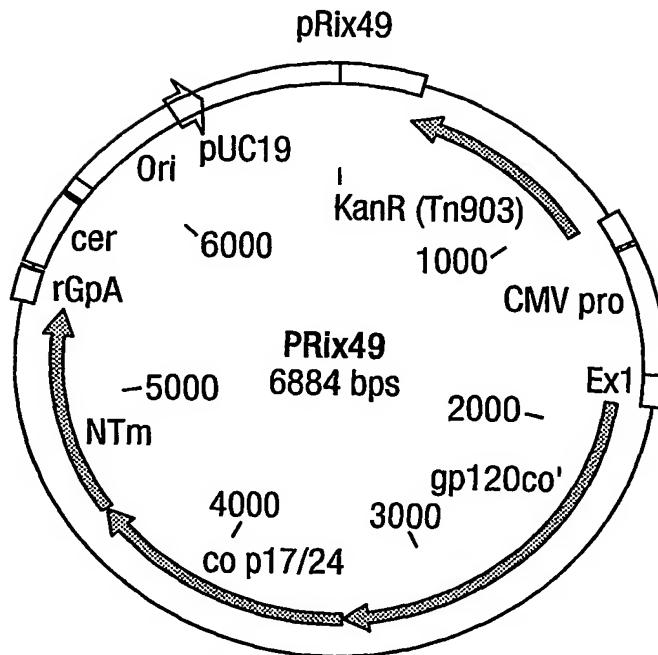
## Fig.30 (Cont.).

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 CTCGGTCTCAATAAAATTGTTAGAATGTACTCTCCGACATCCATCCTGACATTAGACAGGGACCCAAAGA  
 GCCTTTAGGGATTACGTGACCGGTTTATAAGACCCCTGCGAGCAGAGCAGGCTCTCAGGAGGTCAAAA  
 ACTGGATGACGGAGACACTCTGGTACAGAACGCTAACCCGACTGCAAACAAATCTTGAAGGCAGTAGGC  
 CCGGCTGCCACCCCTGGAAGAGATGATGACCGCCTGTCAGGGAGTAGGCAGGACACAAAGCCAGAGT  
 GTTGAATGGGTGGCAAGTGGTCAAAAGTAGTGTGGTGGATGGCCTACTGTAAGGGAAAGAATGAGACGAG  
 CTGAGCCAGCAGCAGATGGGTGGAGCAGCATCTCGAGACCTGGAAAAACATGGAGCAATCACAAGTAGC  
 AATACAGCAGCTACCAATGCTGTTGCTGGCTAGAACGACAAGAGGAGGAGGAGGTGGTTTCCAGT  
 CACACCTCAGGTACCTTAAGACCAATGACTTACAAGGCAGCTGAGATCTAGCCACTTTAAAAGAAA  
 AGGGGGGACTGGAAGGGCTAATTCACTCCCAACGAAGACAAGATATCCTTGATCTGTGGATCTACCACACA  
 CAAGGCTACTCCCTGATTGGCAGAACTACACACCAGGGCCAGGGTCAGATATCCACTGACCTTGGATG  
 GTGCTACAAGCTAGTACCACTGGTGGCCAGATAAGGTAGAACAGGGCCAATAAAGGAGAGAACACCAGCTTGT  
 TACACCCCTGTGAGCCTGCATGGAATGGATGACCCCTGAGAGAGAAGTGTAGAGTGGAGGTTGACAGCCGC  
 CTAGCATTTCATCACGTGGCCCGAGAGCTGCATCCGGAGTACTTCAAGAACTGCACTAGTGAGCCAGTAGA  
 TCCTAGACTAGAGCCCTGGAAGCATCCAGGAAGTCAGCCTAAACTGCTGTACCAATTGCTATTGTAAGA  
 AGTGGTGTCTTCATTGCCAAGTTGTTCTATAACAGCTGCCTAGGCATCTCTATGGCAGGAAGAACCGG  
 AGACAGCGACGAAGACCTCCTCAAGGCAGTCAGACTCATCAAGTTCTATCAAAGCAACCCACCTCCCA  
 ATCCAAAGGGAGCCGACAGGCCGAAGGAATAA [SEQ ID NO: 101]

### Aminoacid sequence of insert

MKVKETRKNYQHLWRWGTMLLGMLMICSAAEQLWVTVYYGVPVWEATTLFCASDAKAYDTEVHNWATH  
 ACVPTDPNPQEVLGNVTEYFNMWKNMVDQMHEIIISLWDQSLKPCVKTPLCVTLDCDDVNTNSTTT  
 SNGWTGEIRKGEIKNCSFNITTSIRDVKQKEYALFYNLVVPIDDDNATTKNKTRNFRRIHCNSSVMTQA  
 CPKVSFEPIPIHYCAPAGFAILKCNNKTFDGKGLCTNVSTVQCTH GIRPVVSTQLLNGSLAEEEVIRSD  
 NFMDNTKTIIVQLNESVAINCTRPNNNTRKGHIHGPGRAYAARKIIGDIRQAHNLSRAQWNNTLKOIVI  
 KLREHFGNKTIFKNQSSGGDPEIVRHSFNCGEFFYCDTTQLFNSTWNGTEGNNTEGNSTITLPCRIKII  
 NMWQEVGKAMYAPPIGGQIRCSSNITGLLLTDGGTEGNGTENETEIFRPGGDMRDNRSELYKYKVVKV  
 EPLGVAPTRAKRRVVQRMGARASVLSGGELDRWEKIRLRPGKKYKLKHIWASRELERFAVNPGLLETS  
 EGCRQILGQLQPSLQTGSEELRSIYNTVATLYCVHQRIEIKDTKEALDKIEEEQNKSKKKAQQAAADGHS  
 NQVSQNYPIVQNIQGQMVHQAISSRTLNAWVKVVEEKAFSPEVIPMFALSEGATPQDLNMLNTVGGHQA  
 AMQLKETINEAAEWRVHPVHAGPIAPGQMREPRGSDIAGTTSTLQEIQIGWMTNNPPIPVGEIYKRWII  
 LGLNKIVRMSPTSILDIRQGPKEPFRDYVDRFYKTLRAEQASQEVKNWMTETLVQNAAPDCKTILKALG  
 PAATLEEMMTACQGVGGPGHKARVLMGKWSKSSVVGWPTVRERMRRAEPAADGVGAASRDLEKHGAITSS  
 NTAATNAACAWLEAQEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLGLIHSQRQDILDWIYHT  
 QGYFPDWQNYTPGPGVRYPLTFGWCYKLPVEPDKVEEANKGENTSLLHPVSLHGMDDPEREVLEWRFDSR  
 LAFHHVARELHPEYFKNCTSEPVDPRLWPWKGPSQPKTACTNCYCKKCCFHCQVCFITAALGISYGRKRR  
 QRRRPPQGSQTHQVSLSKQPTSQSKEPTGPKE [SEQ ID NO: 102]

Fig.31.



## DNA sequence of insert

ATGAAGGTCAAGGAGACCAGAAAGAACTACCAGCATCTGTGGCGCTGGGGCACCATGCTCCTGGGAATGCT  
 GATGATCTGCTCCGCCGAGCAGCTGTGGGTACCGTCTACTACGGCGTGCCTGTGTGGAAGGAGGCCA  
 CGACCACCCCTCTCTGCGCGAGCGACGCCAAGGCCAACGGCTACGACACGGAAAGTGCATAACGTGTGGCGACGCAT  
 GCTGCGTGCTACGGACCCCCAACCCCCCAGGAGGGTGGTGTGGAAACGTGACCGAGTACTTCAACATGTG  
 GAAGAATAACATGGTGGATCAGATGCACGAGGACATCATCTCTGTGGGACCAAGTCCCTGAAGCCCTGCG  
 TGAAGCTGACGCCTCTCGCGTACACTGGACTGTGACGACGTCAACACCACAGCACTACCACCA  
 AGCAACGGCTGGACCGGAGAGATTGGAAGGGCAGAGATCAAGAACTGCTCCTTCATATCAGACCTCGAT  
 CAGAGACAAGGTGCAGAAGGAATACGCGTGTGTTATAATCTCGATGTGGTCCCCATCGACGACGACAATG  
 CCACCAAGAACAGACGACCGTAATTTCAGACTCATTCACTGCAACAGCAGCGTCATGACGCAAGGCC  
 TGCCCCAAGGTGTCCTCGAACCAATCCCGATCCATTACTGTGCCCTGCCGGATTGCGATCCTCAAGTG  
 TAACAACAAGACCTTCGACGGGAAGGGCCTGTGCACCAACGTCAAGCACGGTGAGTGCACCCATGGCATCC  
 GCCCGCTGTGAGCACCCAGCTGCTGCTGAACGGGCTGGCTGAGGAGGGAGGTGGTATCCGGTGGAC  
 AACTTCATGGACAACACCAAGACAATCATCGTCCAGCTGAACGAGTCTGTGGCATTAACTGTACCCGGCC  
 TAACAACAACACCGTAAGGGCATCCACATCGGCCCTGGACGGGCTTCTATGCCGCCGCAAGATCATCG  
 GCGACATCCGGCAGGCCATTGCAACCTCTCCGCCAGTGGAAATAACACCCCTGAAGCAGATCGTGTAC  
 AAGCTGAGAGAGCACTTGGAAACAAGACCATCAAGTTCAATCAGAGTTCTGGCGAGACCCGAGATCGT  
 GCGCACTCCTCAACTGCGGGGGCGAGTTCTACTGCGATACGACACAGCTTCAACTCCACCTGGA  
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 AACATGTGGCAGGAGGGTGGAAAGGCCATGTATGCCCTCCCATCGGGGCCAGATCCGCTCCTCCAA  
 CATCACCGGCCCTGCTGCTCACAGAGACGGGGCACCGAGGGCAACGGCACGGAGAACGAGACGGAGATCT  
 TCAGGCCCGGGCGGCGACATGAGGGATAACTGGCGAGCGAGCTGTACAAGTACAAGTGGTGAAGGTG  
 GAGCCGCTCGCGTGGCCCCCAGCCGGCAAGCGCCGCGTCGTGCAGAGAATGGGTGCCAGCTTCGGT  
 ACTGTCTGGTGGAGAGCTGGACAGATGGGAGAAAATTAGGCTGCGCCGGAGGCAAAAGAAATACAAGC  
 TCAAGCATATCGTGTGGCCTCGAGGGAGCTTGAACGGTTGCGTGAACCCAGGCCCTGCTGGAAACATCT  
 GAGGGATGTCGCCAGATCCTGGGCAATTGCAAGGCCATCCCTCAGACCGGGAGTGAAGAGCTGAGGTCTT  
 GTATAACACAGTGGCTACCCCTACTGCGTACACCAAGAGGATCGAGATAAGGATACCAAGGAGGCCCTGG  
 ACAAAATTGAGGAGGGAGCAAAACAAGAGCAAGAAGAAGGCCCAGCAGGGCAGCTGCTGACACTGGGATAGC  
 AACCAAGGTATCACAGAACTATCCTATTGTCAAAACATTCAAGGGCCAGATGGTTCATCAGGCCATCAGCCC  
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## Fig.31 (Cont.).

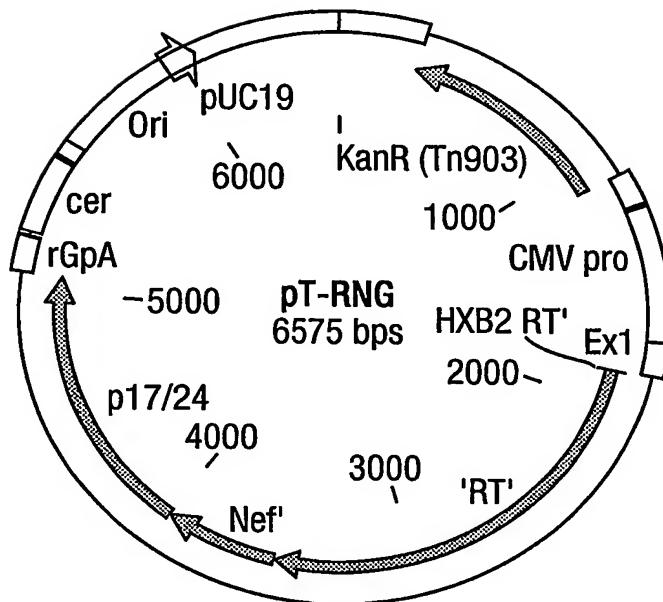
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 TGGCCAATCGGCCGGACAGATGCGGGAGCCTCGCGGCTCTGACATTGCCGGACCACCTCTACACTGC  
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 CTCGGTCTCAATAAAATTGTTAGAATGTTACTCTCCGACATCCATCCTTGACATTAGACAGGGACCCAAAGA  
 GCCTTTAGGGATTACGTCGACCGGTTTATAAGACCCCTGCGAGCAGAGCAGGCCCTCTCAGGAGGTCAAAA  
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 AGGGGGACTGGAAGGGCTAATTCACTCCAAACGAAGACAAGATATCCTTGATCTGTGGATCTACCACACA  
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 GTGCTACAAGCTAGTACCACTGAGCCAGATAAGGTAGAAGAGGAGCAATAAAGGAGAGAACACCAGGCC  
 TACACCTGTGAGCCTGCATGGAATGGATGACCCCTGAGAGAGAAGTGTAGAGTGGAGGTTGACAGGCC  
 CTAGCATTTCATCACGTGGCCCGAGAGCTGCATCCGGAGTACTTCAAGAACTGCACTAGTGGCCAGTAGA  
 TCCTAGACTAGAGCCCTGGAAGCATCCAGGAAGTCAGCCTAAACTGCTTGACCAATTGCTATTGTAAAA  
 AGTGTGCTTTCATTGCCAAGTTGTTCTATAACAGCTGCCTTAGGCATCTCTATGCCAGGAAGAAGCGG  
 AGACAGCGACGAAGACCTCCTCAAGGCAGTCAGACTCATCAAGTTCTATCAAAGCAACCCACCTCCCA  
 ATCCAAAGGGAGCCGACAGGCCGAAGGAATAA [SEQ ID NO: 103]

## Aminoacid sequence of insert

MKVKETRKNYQHLWRWTMLLGMLMCSAAEQLWVTVYYGVPWKEATTLCASDAKAYDTEVHNWATH  
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 SNGWTGEIRKGEIKNCSFNITTSIRDKVQKEYALFYNLDVVPIDDDNATTKNKTRNFRLIHCNSSVMTQA  
 CPKVSFEPIPIHYCAPAGFAILKCNNKTFDGKGLCTNVSTVQCTHGI RPVSTQLLNGSLAEEEVVIRSD  
 NFMDNTKTIIQLNESVAINCRPNNNTRKGHIHGPGRFYAARKIIGDIRQAHCNLSRAQWNNTLKQIVI  
 KLREHFGNKTIFNQSSGGDPEIWRHSFNCGEFFYCDTTQLFNSTWNGTEGNNTEGNSTITLPCRIKQII  
 NMWQEVGKAMYAPPIGGQIRCSSNITGLLTRDGGTEGNGTENETEIFRPGGGDMDRNWRSELYKYVVKV  
 EPLGVAPTRAKRRVQRMGARASVLSGGELDRWEKIRLRPGKKYKLKHIVWASRELERFAVNPGLLETS  
 EGCRQILGQLQPSLQTGSEELRSLYNTVATLYCVHQRIEIKDTKEALDKIEEEQNKSKKAAQQAAADTGHS  
 NQVSQNYPIVQNIQGQMVHQAI SPRTLNAWVKVVEEKAFSPEVIPMFALSEGATPQDLNTMLNTVGGHQA  
 AMQMLKETINEEAEWDRVHPVHAGPIAPGQMRPGRSDIAGTTSTLQEIQIGWMTNNPPIPVGIEIYKRWII  
 LGLNKIVRMYSPSTSILDIRQGPKEPFRDVDRFYKTLRAEQASQEVKNWMTETLLVQNANPDCKTILKALG  
 PAATLEEMMTACQGVGGPGHKARVLMGGKWSKSSVVGWPTVRERMRAEPAADGVGAASRDLEKHGAITSS  
 NTAATNAACAWLEAQEEEVGFPTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRQRQDILDLWIYHT  
 QGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPKVVEANKGENTSAHPVSLHGMDDPEREVLEWRFDSR  
 LAFHHVARELHPEYFKNCTSEPVDPRLWPWKPGSQPKTACTNCYCKKCCFHQCQVCFITAALGISYGRKKR  
 QRRRPPQGSQTHQVSLSKQPTSQSKGEPTGPKE [SEQ ID NO: 104]

Fig.32.

pT-RNG



DNA sequence of insert:

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 AGATCAGCAAGATCGGGCCTGAGAACCCATACAACACCCCCGTGTTGCCATCAAGAAGAAGGACAGCACC  
 AAGTGGCGCAAGCTGGTGGATTCCGGAGCTGAATAAGCGGACCCAGGATTCCTGGGAGGTCCAGCTGGG  
 CATCCCCCATCCGGCCGGCTGAAGAAGAAGAGGGCTGACCGTGACCGTGCTGGACGGCGACGCTTACTTCA  
 GCGTCCCTCTGGACGAGGACTTAGAAAGTACACCGCTTACCATCCCCTATCAACACGAGACCCCT  
 GGCATCAGATATCAGTACAACGTCCTCCCCCAGGGCTGGAAGGGCTCTCCGCCATTTCCAGAGCTCCAT  
 GACCAAGATCCTGGAGGCCGTTCGGAAGCAGAACCCGATATCGTCATCTACCAAGTACATGGACGACTGT  
 ACGTGGGCTCTGACCTGGAAATCGGGCAGCAGTCACGAGATTGAGGAGCTGAGGCAGCATCTGCTGAGA  
 TGGGGCCTGACCACTCCGGACAAGAAGCATCAGAAGGAGCCGCATTCCCTGAAGATGGGCTACGAGCTCCA  
 TCCCACAGTGGACCCTGCAGCTATCGTCCTCCCCGAGAAGGACAGCTGGACCGTGAACGACATCCAGA  
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 CTGGCGGGCACCAAGGCCCTGACCGAGGTGATTCCCTCACGGAGGAAGCCGAGCTCGAGCTGGCTGAGAA  
 CGGGAGATCCTGAAGGAGCCCTGCACGGCGTGTACTATGACCCCTCCAAGGACCTGATGCCGAAATCC  
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 GGTGGACCGAATATTGGCAGGCCACCTGGATTCCCGAGTGGAGTTCGTGAATACACCTCCCTGGTGAAG  
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 GTGACGGACAGCCAGTACGCGCTGGCATTATTCAAGGCCAGCCGGACCAGTCCGAGAGCGAACTGGTGAAG  
 CCAGATTATCGAGCAGCTGATCAAGAAAGAGAACGGTCTACCTGCCCTGGTCCGGCCATAAGGGATTG  
 GCGCAACGAGCAGGTGACAAGCTGGTAGTGCAGGATTAGAAAGGGTGTATGGTGGGTTTCCAGTC  
 ACACCTCAGGTACCTTAAAGACCAATGACTTACAAGGCAGCTGTAGATCTAGCCACTTTTAAAGAAAA  
 GGGGGGACTGGAAGGGCTAATTCACTCCAAAGAAGACAAGATATCCTGATCTGTGGATCTACCACACAC  
 AAGGCTACTCCCTGATTGGCAGAACTACACACCAGGGCCAGGGTCAGATATCCACTGACCTTGGATGG  
 TGCTACAAGCTAGTACCAAGTTGAGCCAGATAAGGTAGAAGAGGCCAATAAGGAGAGAACACCAGCTGTT

## Fig.32 (Cont.).

ACACCCCTGTGAGCCTGCATGGGATGGATGACCCGGAGAGAGAAAGTGTAGAGTGGAGGTTGACAGCCGCC  
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 GTACTGTCTGGTGGAGAGCTGGACAGATGGAGAAAATTAGGCTGCGCCCGGGAGGCAAAAGAAATACAA  
 GCTCAAGCATATCGTGTGGCCTCGAGGGAGCTGAACGGTTGCGCTGAACCCAGGCCGCTGCTGGAAACAT  
 CTGAGGGATGTCGCCAGATCCTGGGCAATTGCAGCCATCCCTCCAGACCGGGAGTGAAGAGCTGAGGTCC  
 TTGTATAACACAGTGGCTACCCCTACTGCGTACACCAGAGGATCGAGATAAGGATACCAAGGAGGCCTT  
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 CCCCAGCCTCAATGCCTGGGTGAAGGGTGTGAAGAGAAGGCCTTTCTCCTGAGGTTATCCCCATGTT  
 CTCCGCTTTGAGTGAGGGGGCACTCCTCAGGACCTCAATACAATGCTTAATACCGTGGCGGCCATCAGG  
 CCGCCATGCAAATGTTGAAGGAGACTATCACGAGGAGGCAGCCGAGTGGGACAGAGTGCATCCGTCAC  
 GCTGGCCCAATCGCAGCCGGACAGATGCGGGAGCCTCGCGGCTCTGACATTGCCGGCACCAACCTCTACACT  
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 TCCTGGGCCTGAACAAGATCGTGCATGTAATCTCCGACATCCATCCTGACATTAGACAGGGACCCAAA  
 GAGCCTTTAGGGATTACGTCGACCGGTTTATAAGACCTGCGAGCAGCAGGCCCTCAGGAGGTCAA  
 AAACCTGGATGACGGAGACACTCCTGGTACAGAACGCTAACCCGACTGCAAAACAAATCTGAAGGCACTAG  
 GCCCGGCTGCCACCCCTGGAAGAGATGATGACCGCCTGTCAGGGAGTAGGCGGACCCGGACACAAAGCCAGA  
 GTGTTGTAA [SEQ ID NO: 88]

## Amino acid sequence of insert:

MGPISPIETVPVKLKGMDGPVKQWPLTEEKIKALVEICTEMEKEGKISKIGPENPYNTPVFAIKKKDST  
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 GIRDQYQNVLPQGWKGSPAIFQSSMTKILEPFRKQNPDIVIYQYMDLYVGSDELIGQHRTKIEELRQHLLR  
 WGLTPDKHHQKEPPFLKMGYELHPDKWTVQPIVLPDKSDWTVNDIQKLVGKLNWASQIYPGIKVRQLCKL  
 LRGTKALTEVIPLTEEAELAENREILKEPVHGIVYDPSKDLIAEIQKQGQGQWTYQIYQEPEFKNLKTGK  
 YARMRGAHTNDVKQLTEAVQKITTESIVIWGKTPKFKLPIQKETWETWWTEYWQATWIPEWEFVNTPPLVK  
 LWYQLEKEPIVGAETFYVDGAANRETKLKGAGYVTNRGRQKVVTLDTTNQKTELQAIYLALQDSGLEVN  
 VTDQYALGIIQAPDQSESELVNQIIEQLIKKEKVYLAWVPAHKGIGGNEQVDKLVSAGIRKVLVGF  
 TPQVPLRPMTYKAAVDLSHFLKEKGGLIHSQRQDILDWIYHTQGYFPDWQNYTPGPGVRYPLTFGW  
 CYKLPVEPDKVEEANKGENTSLHPVSLHGMDDPEREVLERWRFDSRLAFHHVARELHPEYFKNCMGARAS  
 VLSGGELDRWEKIRLRPGGKKYKLKHIVWASRELERFAVNPGLLETSEGRQILGQLQPSLQTGSEELRS  
 LYNTVATLYCVHQRIEIKDTKEALDKIEEEQNKSKKQAQAAADTGHHSNQVSQNYPIVQNIQGQMVHQAIS  
 PRTLNAWVKVVEEKAFSPEVIPMFSALSEGATPQDLNTMLNTVGGHQAAMQMLKETINEAAEWRDRVHPVH  
 AGPIAPGQMREPRGSDIAGTTSTLQEIQIGWMTNNPPIPVGFIYKRWIILGLNKIVRMYSPSTSILD  
 IRQGPKEPFRDYDRFYKTLRAEQASQEVKNWMTEL LVQNANPDCKTILKALGPAATLEEMMTACQGVGGPGHKAR  
 VL [SEQ ID NO: 89]

A schematic representation of the constructs and associated expression data is shown below

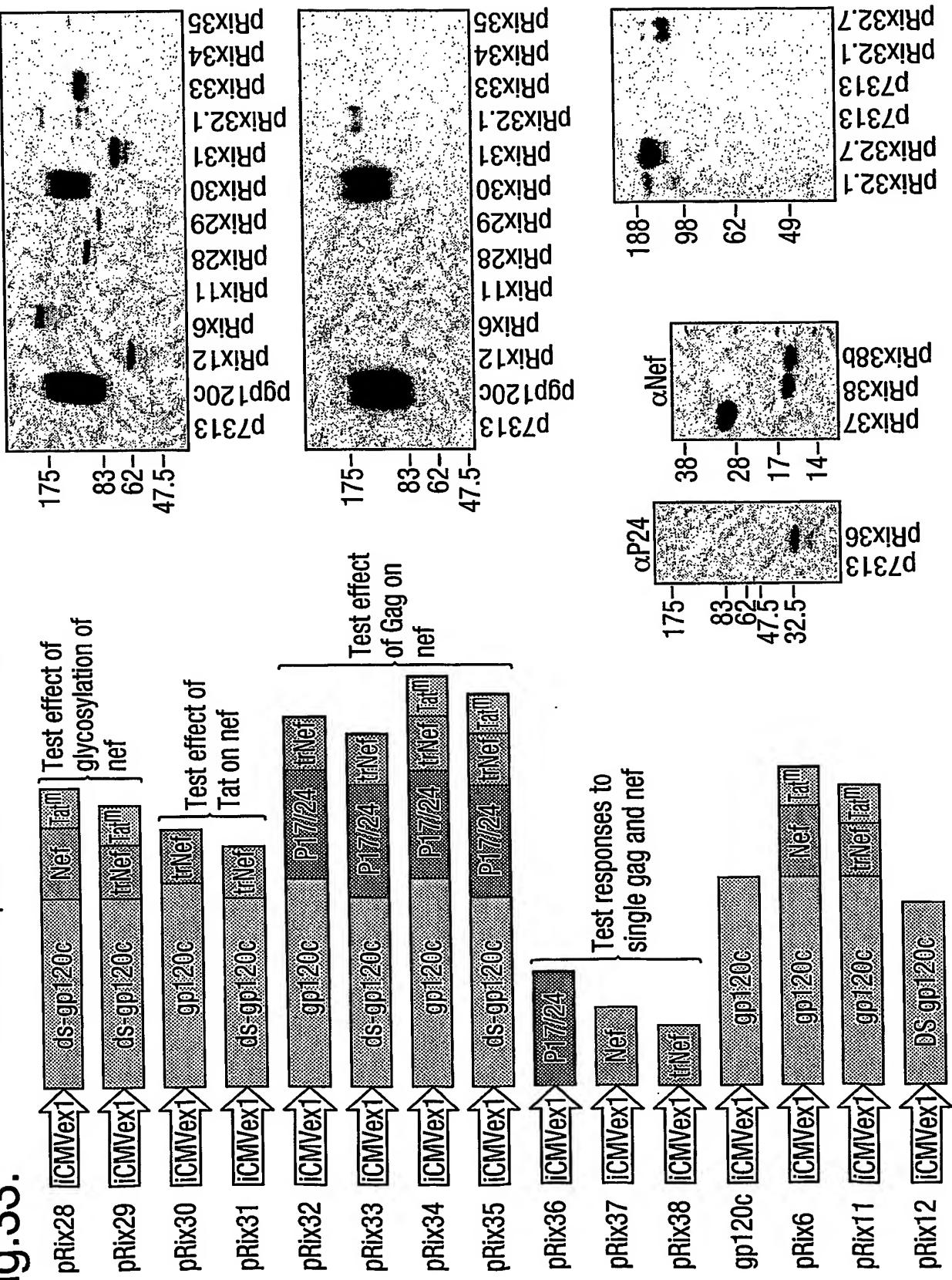
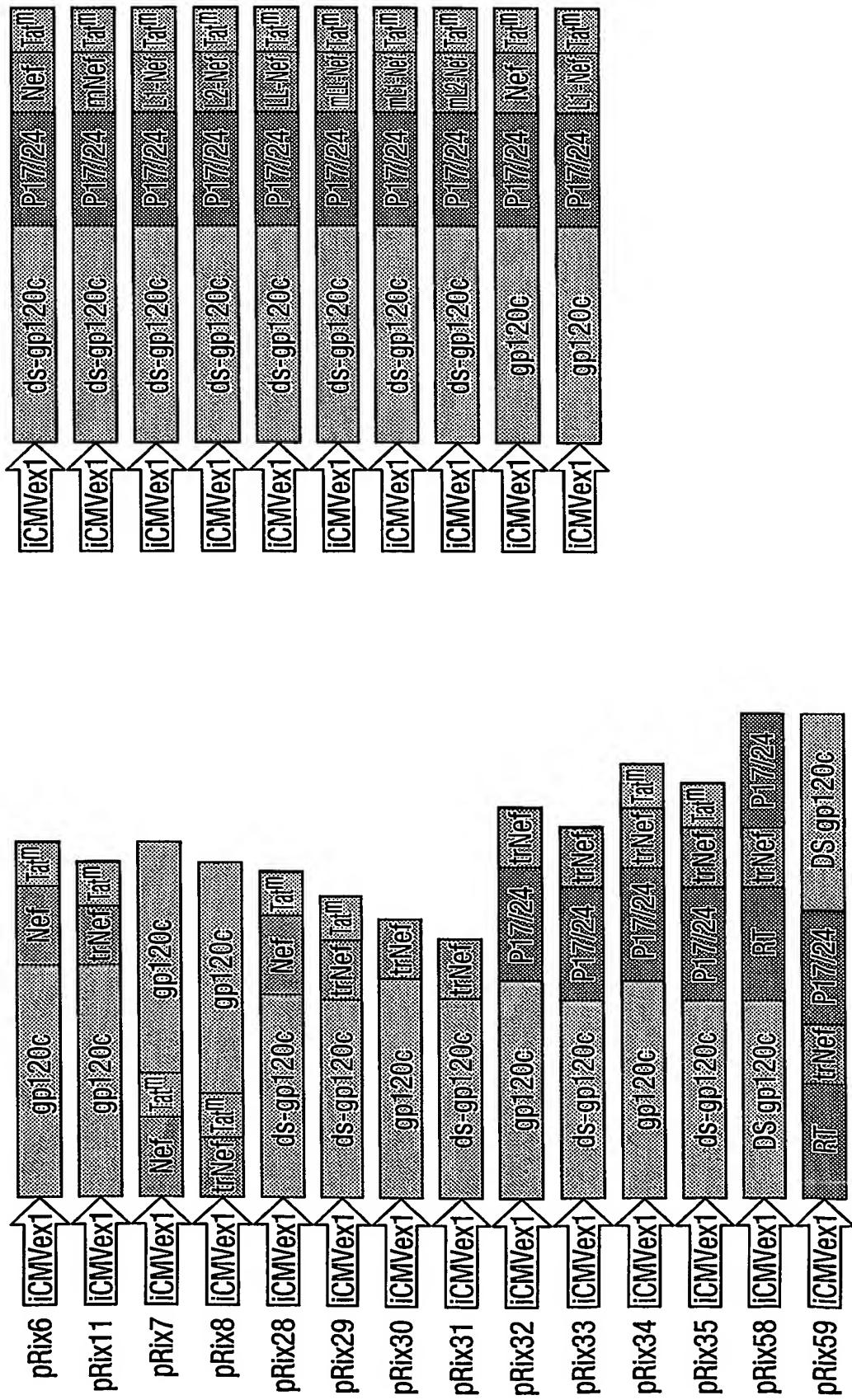


Fig.33.

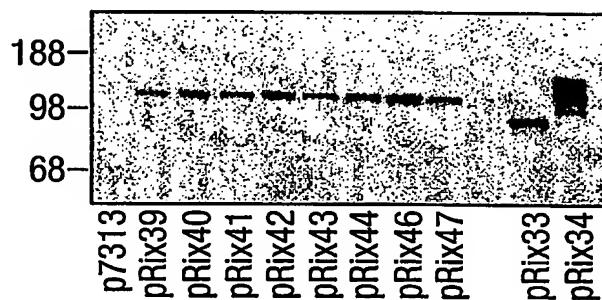
Fig. 34.

A Schematic representation of further constructs

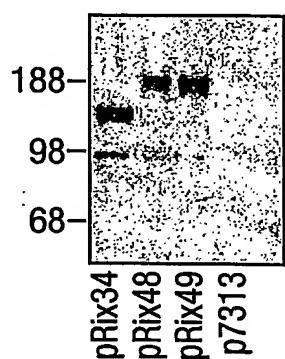


**Fig.35.**

Expression data (anti-Nef) for dsgp120/Gag/Nef/Tat fusions with mutations in Nef (pRix40-47)



Expression data (anti-Nef) for dsgp120/Gag/Nef/Tat fusions with glycosylated gp120 (pRix48 and pRix49)



Expression data (anti-Nef) for the quadrivalent fusion proteins containing RT, Nef, Gag and dsgp120, compared to expression of the RT,Nef,Gag fusion alone

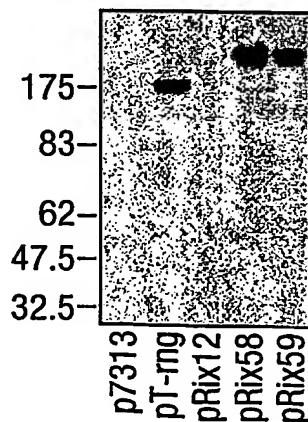
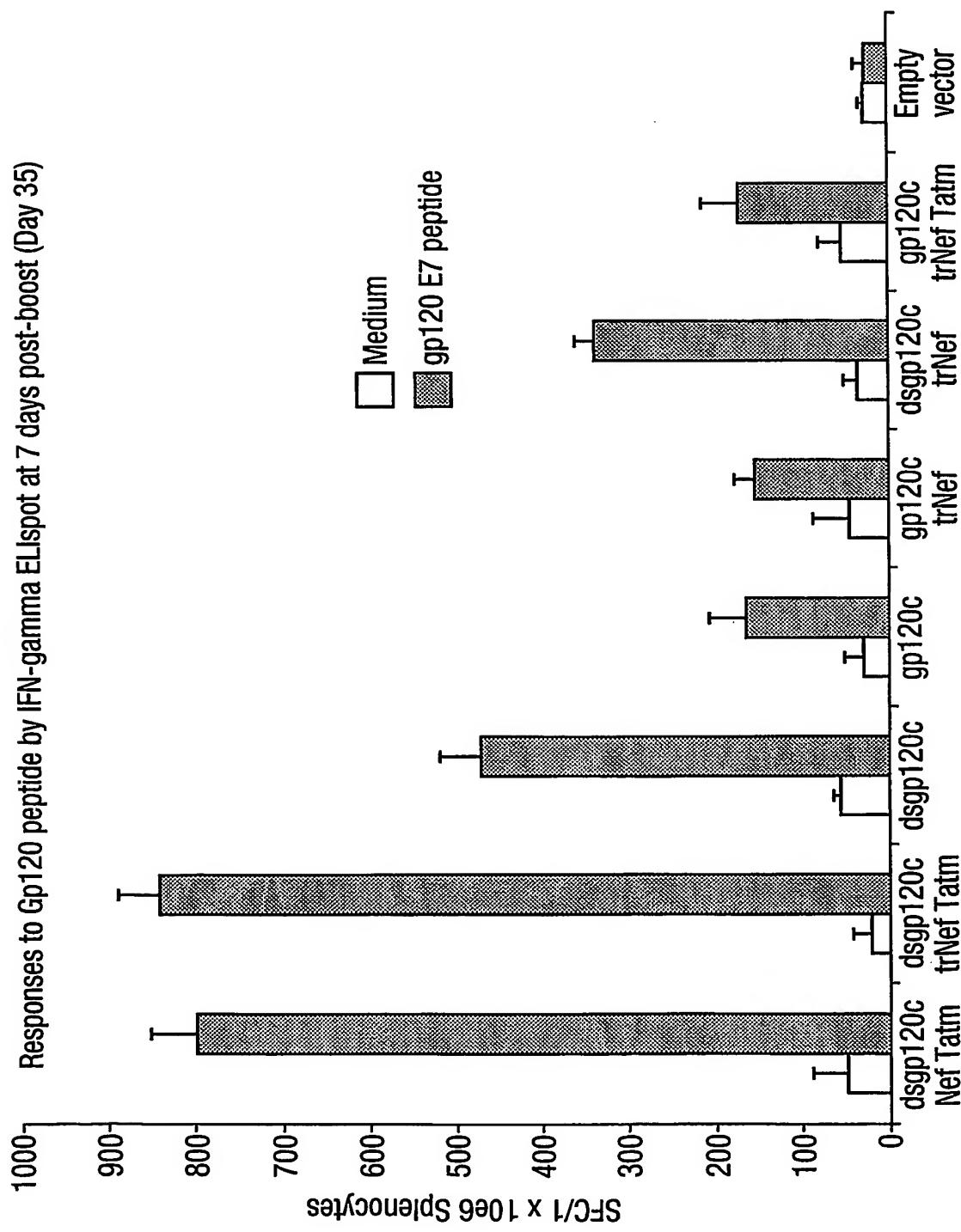


Fig. 36.

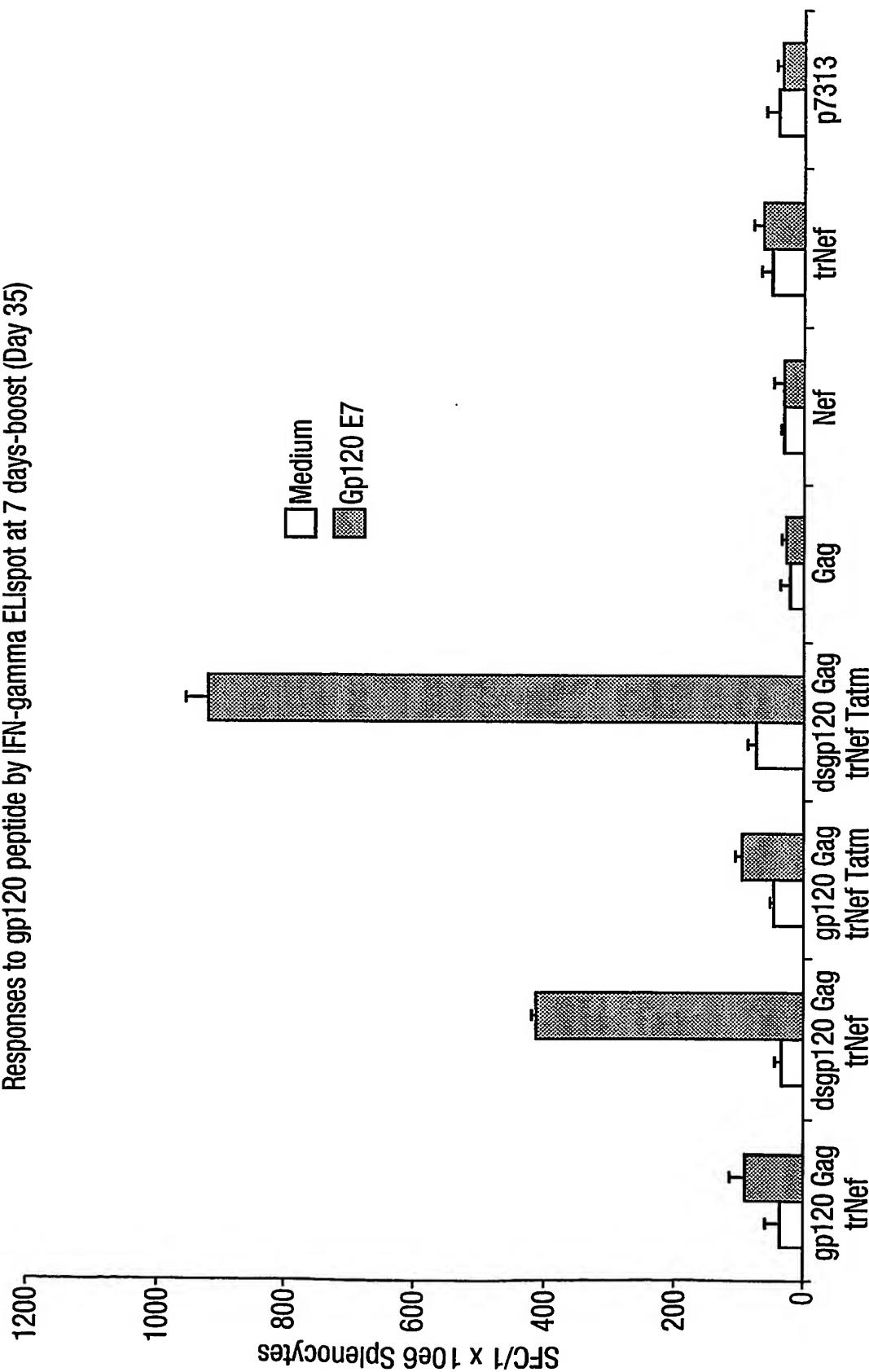
Responses to Gp120 peptide by IFN-gamma ELISpot at 7 days post-boost (Day 35)



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**Fig. 37.**

Responses to gp120 peptide by IFN-gamma ELispot at 7 days-boost (Day 35)



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**Fig.38.**

Response to in vitro restimulation with Gp120, Gag and RT peptides at 7 days post-boost (Day 35) using IFN-gamma ELispot

